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December 1, 2016

To: Supervisor Hilda L. Solis, Chair
Supervisor Mark Ridley-Thomas
Supervisor Sheila Kuehl
Supervisor Don Knabe
Supervisor Michael D. Antonovich

From: Sachi A. Hamai
Chief Executive Officer

WORKLOAD ANALYSIS OF THE DEPARTMENT OF MEDICAL EXAMINER-CORONER

In an effort to support the Department of Medical Examiner-Coroner (DMEC), the Chief Executive Office requested a consultant firm, Strategica, Inc. (Strategica), to conduct a workload analysis to better understand their staffing needs. Attached is Strategica's report, *Workload Analysis of the Department of Medical Examiner - Coroner.* This report details the methodology and provides recommendations pertaining to staffing needs and workflow process improvements.

Analysis:

To determine staffing needs, Strategica took the approach of identifying the performance standards required by the National Association of Medical Examiners (NAME) and DMEC self-imposed performance standards compared to data collected from the DMEC's case management system and workload surveys. Over 38,000 data points were analyzed. The data points included:

- Number and types of cases;
- Distance traveled to respond to cases;
- Number of active staff as of June 2016;
- Caseloads for investigators, physicians, and toxicology;
- Staff performance, where possible, from the time the Coroner accepted jurisdiction of a case to when the case was closed;
- Overtime; and
- Leaves

Results:

As a result of the analysis, Strategica made six staffing recommendations and 11 workflow recommendations. The current staffing levels, which include the positions provided during Final Changes and Supplemental, are consistent with Strategica's recommendations.

A preliminary draft of the report was shared with the DMEC. The DMEC provided a response to the report, included in the appendix. Based on the feedback, Strategica's report already addressed a number of the DMEC's concerns. In regards to the other DMEC concerns pertaining to specific functions that are above and beyond their core functions (i.e., DNA lab), Strategica recommended that the County should research the costs and benefits and make a policy decision on those functions prior to any further investment.

Next Steps:

DMEC continues to work aggressively to fill their numerous vacancies. Strategica has been retained to continue their data collection until April 2017. The CEO will continue to monitor the progress of the DMEC's ability to fill their vacancies and their ability to manage their workload.

The CEO encourages the DMEC to consider implementation of the workflow recommendations to improve their operations. Further, it is recommended that DMEC staffing levels be revisited after April 2017, once new staff are brought onboard to determine if staffing is sufficient to address their workload.

If you have any questions, please let me know, or you may contact Fesia Davenport at (213) 974-1186.

SAH:JJ:FAD
CT:yf

Attachment

c: Executive Office, Board of Supervisors
County Counsel
Department of Medical Examiner-Coroner

title

Workload Analysis of the Department of Medical Examiner-Coroner

submitted to

Los Angeles County
Chief Executive Office

Report date

November 15, 2016

Management Auditing
Lean Process improvement
Strategic planning
Organizational design

STRATEGICA

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Workload Analysis of the Department of Medical Examiner-Coroner

Table of Contents

Section	Page
Cover letter	
Executive Summary	1
Objectives and Scope	7
Background	8
Findings and Recommendations	
What are Policy and service goals and performance standards?	11
What are the current performance levels?	13
What staffing resources are needed to achieve standards?	34
What workflow improvements can be undertaken?	37
Is there a need for a second facility?	42
Appendices	
A –Procedures Performed	45
B – DMEC Response	46
C – Strategica, Inc. Rebuttal to DMEC Response	49
D – Civil Grand Jury Report	55

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November 15, 2016

Cheri Thomas
Chief Executive Office
Los Angeles County
500 West Temple Street
Los Angeles, CA 90012

Dear Ms. Thomas:

Pursuant to our Delegated Authority Agreement Contract No. AO-1 6-107, we have completed our Workload Analysis of the Department of Medical Examiner-Coroner. This report contains our findings and recommendations.

Thank you for giving Strategica, Inc. the opportunity to conduct this project. I greatly enjoyed working with you and the staff at the Department of Medical Examiner-Coroner (DMEC).I would like to particularly thank Elaine Palaiologos and Brian Cosgrove of the DMEC for their assistance in completing this project.

Please call on Strategica, Inc. again should you need the services of a consultant. If you have any questions or comments, please contact me at (425) 427-5269.

Yours truly,

David Howe

David Howe
President

Executive Summary

Why we did this project

In response to significant workload and case backlogs at the Department of the Medical Examiner-Coroner (DMEC), the County Chief Executive Office (CEO) requested Strategica, Inc. to conduct a workload and staffing analysis of the DMEC. This analysis seeks to answer the following scoping questions:

1. What are the policy and strategic goals that are affected by workloads and staffing levels (i.e., what is the DMEC trying to achieve)?
2. What are the current performance levels (e.g., response times, backlogs) associated with those goals (i.e., what are they achieving today)?
3. What staffing resources are necessary to achieve the policy and strategic goals,
4. What actions should be undertaken to attain the necessary staffing resources, and
5. What workflow improvements could be implemented to improve operational efficiency and turnaround times.

What we did

We identified DMEC performance standards and targets (mostly dealing with processing timeliness) and compared them with actual performance using data from DMEC case management systems. Using this data we were able to pinpoint those areas where performance lagged the standards and the amount of staffing needed to close those gaps. We also identified operational improvements and policy changes that would improve efficiency and service levels. We also analyzed the potential need for additional field offices by comparing timeliness and travel distances for investigators.

What are Policy and service goals and performance standards?

The statutory authority for the Coroner is granted by State law in the California Government Code (i.e., § 27490 et. Seq.) that defines the duty of the coroner to inquire into and determine the circumstances, manner, and cause of all violent, sudden, or unusual deaths;

unattended deaths; deaths where the deceased has not been attended by either a physician or a registered nurse. The statute goes on to describe in great detail the specific cases that fall under the coroner's jurisdiction.

To manage the work, the DMEC has set several quantifiable policy goals aimed at processing cases expeditiously so that families can recover and inter the bodies of their family members quickly, factual findings can be forwarded to law enforcement when necessary, and processing backlogs can be kept at a manageable level.

The DMEC has also adopted policy goals based on the accreditation standards promulgated by the National Association of Medical Examiners (NAME). Although NAME accreditation is not required for the Coroner to perform its work, the standards are seen as a useful, and widely accepted, proxy for operational quality.[1] NAME has two tiers of standards: Phase 1 and Phase 2. Deficiencies in Phase 2 standards are more serious – any Phase 2 deficiencies will result in loss of full accreditation.[2] Most NAME standards deal with procedural or infrastructure matters but three in particular deal with timeliness.

What are the current performance levels?

The DMEC is currently meeting internal standards for performing medical exams (48 hours after the approval of the investigation report) and for the transport staff in the Decedent Services Unit (24 hours to bring decedents into the facility). The DMEC is also meeting the NAME phase 2 caseload standard for forensic pathologists (i.e., no more than 325 annual autopsies for each pathologist).

The DMEC is not meeting NAME phase 2 time standards for completing post-mortem exams (90% within 90 days of the exam date)[3], completing autopsies (90% within 72 hours

[1] Most "death certifying" agencies in the United States are not NAME-accredited although most large, urban counties and cities are accredited. New York City is a notable exception to this rule.

[2] NAME accreditation policy states: An inspection finding of no more than fifteen (15) Phase I deficiencies and no (0) phase II deficiencies is required for full accreditation. Provisional accreditation may be conferred for a twelve (12) month period if the office has no more than twenty-five (25) Phase I and no more than five (5) Phase II deficiencies.

[3] For NAME accreditation purposes, completing a post mortem exam means that all examination, investigation and ancillary reports (radiology, lab tests, medical records) are complete and signed by all participants in the investigation. A medical exam is the actual autopsy or, in some cases, an external examination of the body.

of accepting jurisdiction)[4], and completing toxicology tests (90% within 90 days of the test request date). The DMEC is also not meeting internal standards for completing investigations (48 hours within the arrival of the body). Currently, the DMEC is poised to drop from full NAME accreditation to provisional accreditation (pending the completion of the current inspection cycle). If the DMEC is placed on provisional accreditation, they can maintain provisional accreditation for up to five years and can apply for full accreditation at any point within that five-year period.

The primary causes of these performance lapses are: backlogs in the toxicology lab and in investigating hospital cases, both caused by staffing vacancies and a shortage of budgeted positions and DMEC procedures that delay medical exams until investigation reports are complete.

Although we made first-hand observations of the Reporting Desk, we were unable to determine performance levels as there is no data generated for this unit nor are there any performance standards for the function. Due to the lack of data, we are unable to make any staffing recommendations pertaining to this unit.

What staffing resources are needed to achieve standards?

Based on productivity ratios, target performance standards and typical timelines for investigating cases, we recommend staffing the Investigation Divisions at 48 budgeted Coroner Investigator positions and one additional Supervising Coroner Investigator position. In addition, the Toxicology laboratory should be staffed with 17 budgeted Senior Criminalist positions. Forensic Attendant, Forensic Technician, Physician Specialist staffing levels should remain the same.

What workflow improvements can be undertaken?

Several workflow improvements were identified during this project. These included ideas for focusing on the core statutory mission of the DMEC and exploring outsourcing toxicology testing and limiting or completely outsourcing DNA and GSR[5] testing. The

[4]This is a new standard effective September 9, 2016..

[5] Gunshot residue

DMEC could also reduce processing cycle times by accelerating medical exams for certain cases. Finally, the DMEC could leverage the efforts of physicians and investigators by hiring social workers and nurses to take on certain tasks.

Is there a need for a second facility?

The DMEC currently has two small field offices in the Antelope Valley and in the City of San Fernando (where a few investigators are out-stationed) in addition to the main facility in East Los Angeles. Our analysis of investigation timelines analyzed the relationship between distance (the zip code where the case originated) and processing timeliness. Our data showed that zip codes distant from the DMEC were associated with longer timelines but that there were already field offices in these areas. The data did not support the need for any additional field offices or a second full service facility.

RECOMMENDATIONS

Based on the analyses, the following are the recommendations to ensure that DMEC is meeting self-imposed and NAME standards.

Staffing Recommendations

Recommendation 1– Implement an Automatic Call Distributor (ACD) to track and measure performance of the Reporting Desk to determine appropriate staffing levels.

Recommendation 2: Maintain the current level of Forensic Attendant positions in the Transport Section.

Recommendation 3: Maintain the current level of Physician Specialist and Forensic Technician positions.

Recommendation 4: Add Coroner Investigator positions to the Coroner to bring the total number of budgeted and authorized positions to 48.

Recommendation 5: Add Criminalist positions to the DMEC to bring the total number of budgeted and authorized positions assigned to the toxicology lab to 17.

Recommendation 6: Add one Supervising Coroner Investigator (lieutenant) to investigations.

Workflow Recommendations

Recommendation 7– the DMEC should consider reducing their internal investigation timeliness standard from 48 to 24 hours so that it is commensurate with the new NAME standard for completing medical exams within 72 hours.

Recommendation 8: Consider outsourcing DNA labwork to the State Department of Justice for criminal matters and private labs for paternity or family genetic testing.

Recommendation 9: Refrain from performing gunshot residue and tool mark tests for outside agencies and limit these tests to just Los Angeles County requirements.

Recommendation 10: Perform a pilot privatization project by outsourcing a cohort of cases to a private forensic laboratory. This cohort could consist of auto collisions and suspected drug overdoses. The pilot should be evaluated over a six month period by analyzing and comparing unit costs, turnaround times and the range of testing services provided by the lab.

Recommendation 11: Hire two nurses dedicated to reviewing and summarizing medical records and forensic lab test results and updating case files for the physicians.

Recommendation 12: Consider revising medical examination procedures to allow for starting autopsies as soon as the decedent is in custody rather than wait for the investigation report to be complete in certain cases (i.e., drug overdose, motor vehicle accidents, suspected natural deaths, suspected suicides).

Recommendation 13: Hire two social workers to work with families to expedite bodies being claimed and released. These social workers can also work with families to find and procure funds for interment.

Recommendation 14: Consider establishing a relationship with a local medical school to administer the paperwork for the DMEC fellowships and residencies.

Recommendation 15: Work with County Counsel to clarify which cases fall within statutory Coroner jurisdiction and develop procedures for rejecting out-of-jurisdiction cases.

Recommendation 16: Equip investigators with an Ipad-based application for collecting Form 1, Form 2 and Form 3a data in the field.

Recommendation 17: Maintain the existing field offices in the City of San Fernando and the Antelope Valley.

This concludes the Executive Summary. The balance of this report presents our detailed findings and recommendations.

Objectives and Scope

The objective of this project was to conduct a workload and staffing analysis for the five critical core functions at the Los Angeles County Department of Medical Examiner-Coroner (DMEC): reporting desk, investigations, laboratories, forensic medicine, forensic support functions and transportation. The functions housed within the Administrative Bureau were excluded. This project answers the following questions:

1. What are the policy and strategic goals that are affected by workloads and staffing levels (i.e., what is the DMEC trying to achieve)?
2. What are the current performance levels (e.g., response times, backlogs) associated with those goals (i.e., what are they achieving today)?
3. What staffing resources are necessary to achieve the policy and strategic goals,
4. What actions should be undertaken to attain the necessary staffing resources, and
5. What workflow improvements could be implemented to improve operational efficiency and turnaround times.

Project Methodology

This workload and staffing analysis started off by identifying the performance goals and targets adopted by the DMEC and the County. Based on these goals and targets, data was extracted from the DMEC caseload and toxicology lab systems and analyzed to determine workload levels and timeliness of performing key DMEC tasks that corresponded to the identified performance goals and targets. For those areas where actual performance lagged DMEC targets, the data was analyzed to determine factors that correlated with processing times. We also conducted a survey of DMEC staff to determine how long it takes to perform specific tasks in investigations, toxicology testing and performing medical exams. This information was ultimately useful for identifying case processing chokepoints and gaps in staffing levels that

would alleviate those chokepoints. This allowed us to pinpoint those areas where additional staffing would improve performance as well as those areas that were performing to standards. We also collected and analyzed data that looked at the need for additional field offices by comparing investigation timeliness to distance traveled (by investigators).

In addition to analyzing performance data, we also updated and examined existing process maps for functions such as toxicology testing, investigations and autopsies and identified potential process improvements using lean techniques. We were aided in this effort by collaborating with an expert associated with NAME who was able to identify several best practices that would improve and enhance DMEC operations.

At the conclusion of our analysis, the DMEC was given the opportunity to review our findings and recommendations and provide a response. This response can be found in Appendix B. Appendix A contains a detailed list of procedures and fact-finding methods used in the completion of this report.

Background

Authority and Scope

The Department of the Medical Examiner-Coroner (DMEC) is mandated by law to inquire into and determine the circumstances, manner, and cause of all violent, sudden, or unusual deaths occurring within Los Angeles County, including all homicides, suicides, accidental deaths, and natural deaths where the decedent has not seen a physician within 20 days prior to death. Statutory authority for the Coroner is derived from the California Government Code (e.g., California Government Code §27490, et. Seq.) and the California Health & Safety, Penal, Vehicle and Evidence Codes.

Staff are mostly based out of the Mission Road facility in East Los Angeles with two investigations staff each out-stationed in the Antelope Valley and the San Fernando Valley.

Agency Snapshot (figures are for FY 2015-16)

Investigations conducted	8,750
Autopsies performed (less external exams)	3,660
External only medical exams	3,070
Toxicology tests performed	55,270
Clearance cases (case within jurisdiction but not investigated or body brought into the Forensic Science Center (FSC)	8,850
Budget	$37,577,000
Positions (as of 7/1/16)	227

Policy and Service Issues

Beginning in December 2015 the staff assigned to the toxicology lab began leaving the agency. These departures included two Supervising Criminalists, positions which were backfilled from the Senior Criminalist ranks. The Chief of the Forensic Lab Bureau also departed in October 2015. By June 2016, the number of filled Senior Criminalist positions (the classification that performs the tests and analyzes and documents the results) had dropped from 13 to 9. Also during this period, the device that measures blood alcohol levels (Gas Chromatography Flame Ionization Detector or GCFID) was out of commission for three months. This staffing and supervisorial dislocation and loss of critical devices resulted in severe backlogs in toxicology starting in August 2015. This in turn hindered the closing of cases due to medical examiners waiting for lab test results.[6] By June 2016, the average number of days required to close a case was 92 days, a 134% increase over June 2015. This in turn imperiled the agency's accreditation by the National Association of Medical Examiners (NAME) which places a premium on coroner-medical examiner offices completing cases in a timely manner.[7] This state of affairs sparked the attention of the Civil Grand Jury which issued a report in the spring of 2016 on the DMEC (and the operational

[6] Although autopsies are typically performed within a matter of a couple of days, a case cannot be closed until lab tests are performed, a cause of death is determined, and a death certificate is signed and accepted by the State Department of Public Health.

[7] The NAME standard is that 90% of cases must be completed within 90 days. However, by June 2016, only 45% of actual cases were being closed within 90 days. The closure rate was as low as 9% as recently as March 2016. Note that case closure is not the same thing as a case file being completed but it is a useful and similar proxy for purposes of this analysis particularly since the DMEC's case management system (CME) does not capture when a case file is complete.

relationship with the County Morgue and Cemetery operated by the County's Department of Health Services). Currently, the DMEC is poised to drop from full NAME accreditation to provisional accreditation (pending the final results of the current inspection).The DMEC can maintain provisional accreditation for up to five years and can apply for full accreditation at any point within that five-year period. Although loss of accreditation has no effect on the office being able to perform its statutory duties it does carry prestige and is a useful proxy for ensuring and demonstrating quality.

In April 2016, the appointed Medical Examiner-Coroner suddenly resigned citing that he did not have adequate resources to do the job. To provide immediate support to the department, the County Board of Supervisors hired the previous, long-standing Medical Examiner-Coroner out of retirement on an interim basis, and placed a previous Forensic Lab Bureau Chief over the Toxicology Lab on an interim basis. The County Chief Executive Officer (CEO) also began closely monitoring DMEC operations and performance levels. As of the Summer of 2016, the key indicators have begun to turn around but the agency still faces the challenges of working through large backlogs, filling vacancies in critical line operations, training new staff, and rebuilding management ranks. The interim Medical Examiner-Coroner has expressed the need for additional staff to properly dispose of cases in a timely manner. In order to help determine the amount of additional staff required, the CEO hired a consulting firm (Strategica) to conduct an assessment of core operations and make recommendations regarding necessary staffing levels and to identify areas where operational improvements can be realized. This report represents the final work product of the consulting firm and makes recommendations regarding the staffing levels, and operational areas where efficiencies can be realized.

Findings and Recommendations

What are policy and service goals and performance standards?

Legal Mandates

Legal mandates for the DMEC focus on defining what constitutes a "coroner case" and the duty of the Coroner to determine cause and manner of death. With a few minor exceptions, the outcomes specified in statute are not time related and do not lend themselves to establishing a nexus between workloads, resource levels and outcomes.

Policy Goals

The DMEC has set several policy goals which are quantifiable and time-related. These goals relate to processing cases expeditiously so that families can recover and inter the bodies of their family members quickly, evidentiary findings can be forwarded to law enforcement when necessary, and processing backlogs arising from seasonal or episodic workload spikes can be kept at a manageable level.

Policy goals have also been adopted from accreditation standards promulgated by NAME. NAME has two tiers of standards: Phase 1 and Phase 2. Deficiencies in Phase 2 standards are more serious – any Phase 2 deficiencies will result in loss of full accreditation.[8] Most NAME standards deal with procedural or infrastructure matters but six in particular deal with timeliness. These are listed in the next section.

[8] NAME accreditation policy states: An inspection finding of no more than fifteen (15) Phase I deficiencies and no (0) phase II deficiencies is required for full accreditation. Provisional accreditation may be conferred for a twelve (12) month period if the office has no more than twenty-five (25) Phase I and no more than five (5) Phase II deficiencies.

Performance Standards

The following list of performance standards was compiled from NAME accreditation checklists and from the DMEC. The list was validated by DMEC management and subsequently used to measure performance as seen later in this report:

Source: NAME Forensic Autopsy Performance Standards 2015
B4.5 the forensic pathologist shall not perform more than 325 autopsies in a year. Recommended maximum number of autopsies is 250 per year.[9]
Source: NAME Inspection and Accreditation Checklist 2014-2019 and National Association of Medical Examiners 2016 Annual Meeting[10]
C.6.o – Are 90% of autopsies and external examinations performed within 48 hours from the time that medical examiner jurisdiction is accepted or coroner's authorization is granted, or within 48 hours of receipt of the decedent if an externally referred autopsy? (phase 1 deficiency)
C.6.p – Are 90% of autopsies and external examinations performed within 72 hours from the time that medical examiner jurisdiction is accepted or coroner's authorization is granted, or within 72 hours of receipt of the decedent if an externally referred autopsy?(phase 2 deficiency)[11]
E.2.g. Are 90% of toxicology examinations completed within 90 calendar days of case submission (phase 2 deficiency)?
E.2.h Are 90% of toxicology examinations completed within 60 calendar days of case submission (phase 1 deficiency)?
F.4.k Are 90% of reports of all postmortem examinations completed within 90 calendar days from the time of autopsy (phase 2 deficiency)?
F.4.l Are 90% of reports of all postmortem examinations completed within 60 calendar days from the time of autopsy (phase1 deficiency)?
G.2.i Is the medical staff of sufficient size that no autopsy physician is required to perform more than

[9] For purposes of accreditation standards, autopsies are counted differently depending on the type. For example, 3 to 5 external autopsies are counted as one.

[10] Failure to meet these NAME standards represent a deficiency for accreditation purposes.

[11] C.6.o and C.6.p are new standards as of September 9, 2016. They are currently in effect.

325 autopsies/year (phase 2 deficiency)?
G.2.j Is the medical staff of sufficient size that no autopsy physician is required to perform more than 250 autopsies/year (phase 1 deficiency)?
Source: DMEC Performance Standards
Time interval from reporting to bringing body in to DMEC facility – 24 hours – Transport
Time interval from arrival of body to completion of investigation report – 48 hours
Time interval from completion of investigation report to completion of medical exam - 48 hours

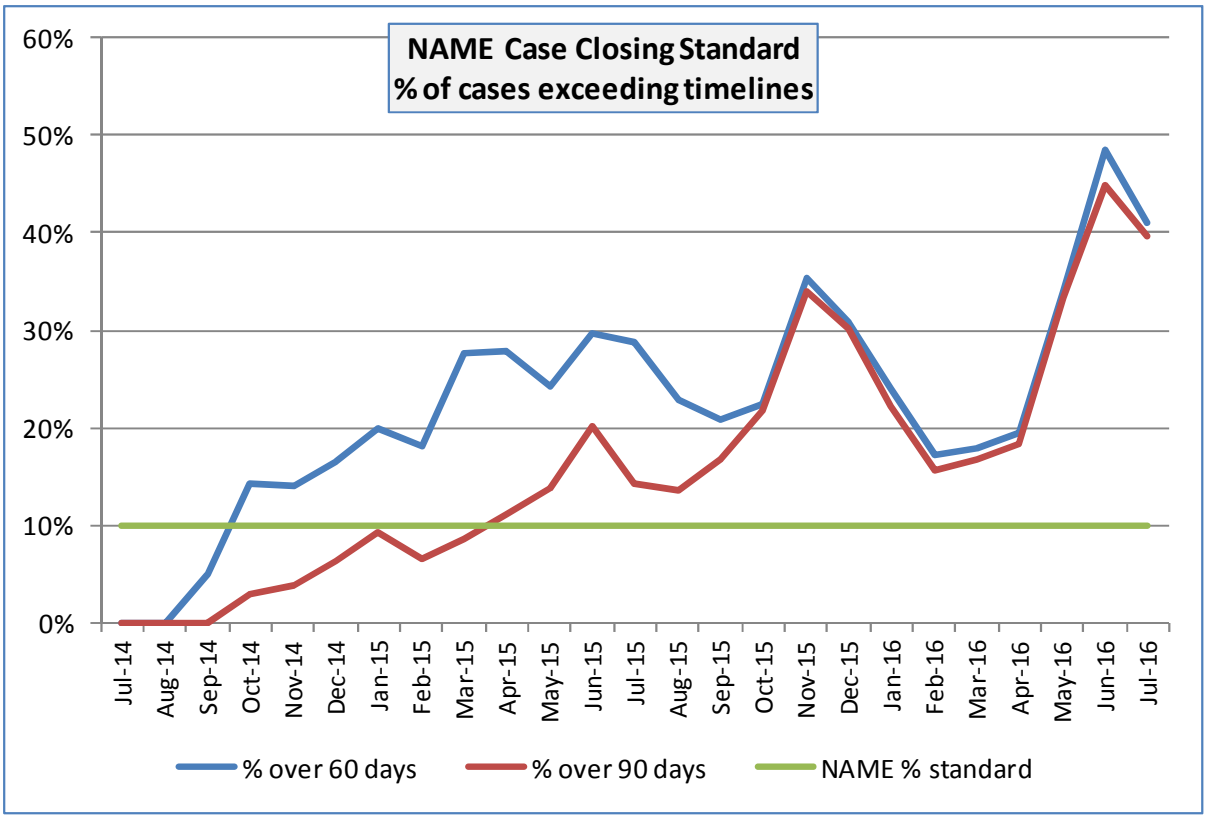
What are the current performance levels?

This section addresses the DMEC'sperformance against the standards adopted by the agency (including the NAME standards) and the nexus between performance and staffing levels. Staffing is an important driver of agency performance along withother inputs such as transport vans, medical diagnostic equipment, etc.

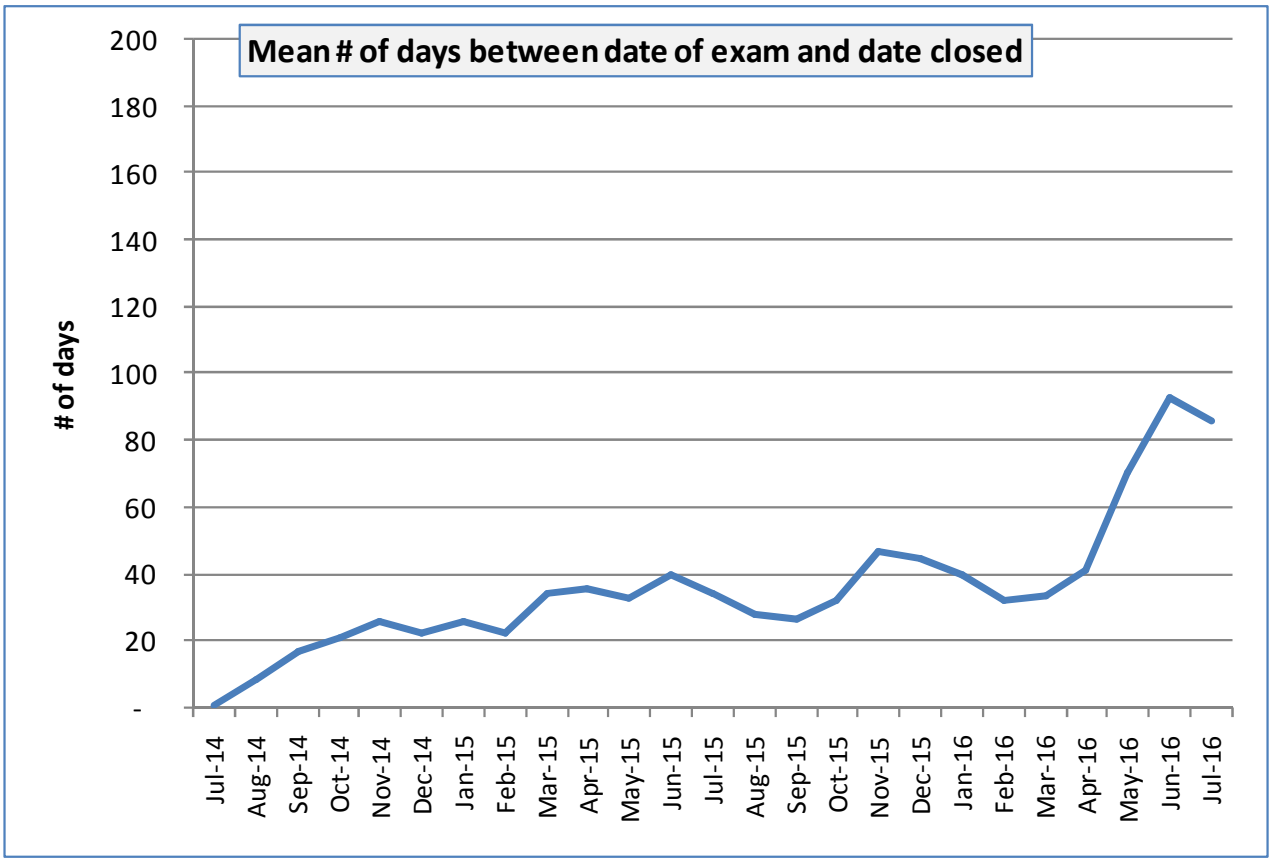
Agency-wide NAME standards

The National Association of Medical Examiners (NAME) has a standard for accreditation that requires that post-mortem exams be completed (i.e., documented and signed) within 90 days (for phase 2 deficiency) or 60 days (phase 1 deficiency) from the time of the medical examination (usually an autopsy).

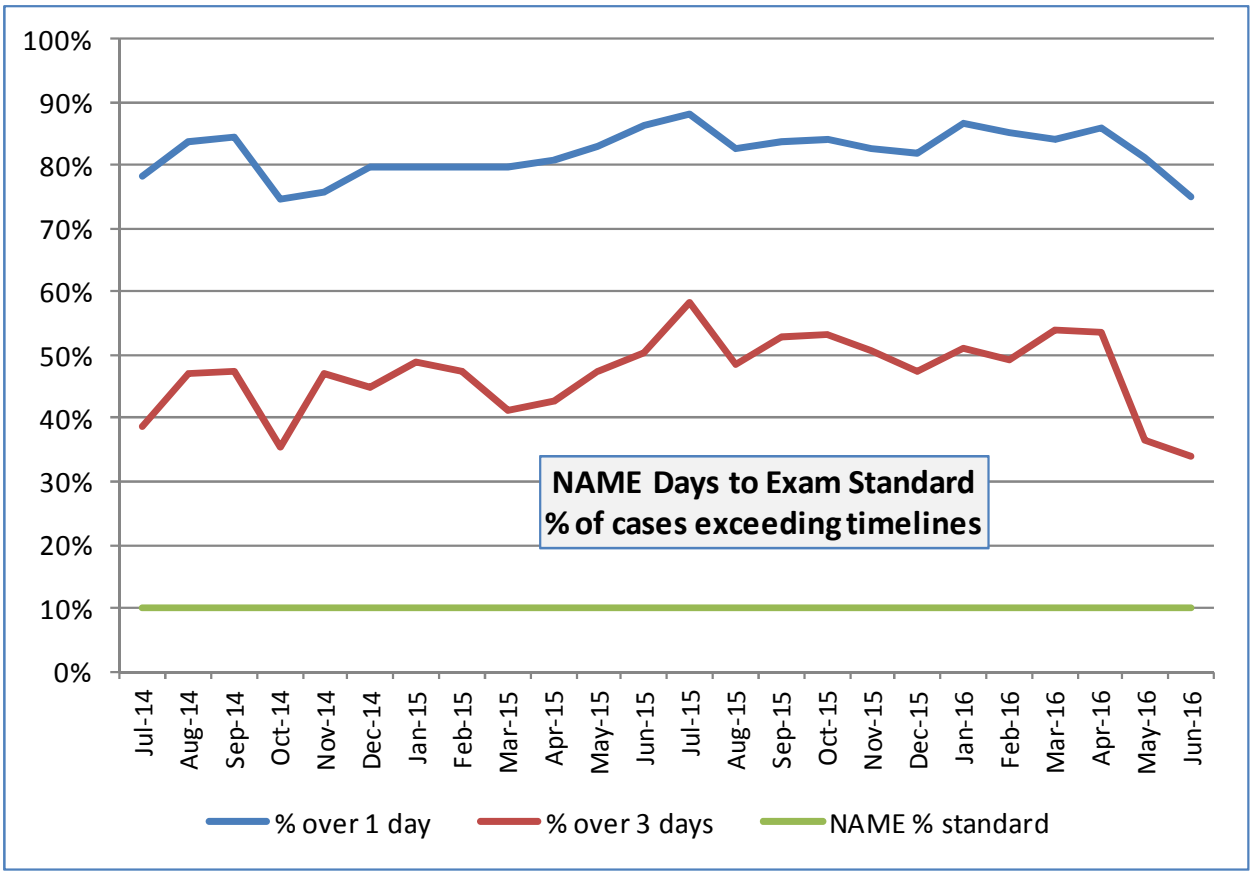
In addition, NAME now (as of September 2016) requires that medical exams be performed within 24 hours (phase 1 deficiency) or 72 hours (phase 2 deficiency) of medical examiner jurisdiction accepted or coronial authorization granted. Again, phase 2 deficiencies are more serious and can lead to loss of accreditation.



The chart above shows the percent of post-mortem exams that exceed the NAME standard of medical exams completed (i.e., documented and signed) within 90 days (for phase 2 deficiency) or 60 days (phase 1 deficiency) from the time of the examination. In either case, no more than 10% of cases can exceed these timelines. The green line represents the maximum percentage of cases that can be out of compliance with the 90% standard. The red line represents the percentage of cases that met or exceeded the 90% under 90 days requirement over a period of time commencing with July 2014 and ending July 2016. The blue line represents the percentage of cases that met or exceeded the 90% under 60 days requirement over a period of time commencing July 2014 and ending July 2016. As seen in the chart, the DMEC is out of compliance with the standard and has been since spring 2015 (Phase 2 deficiency). As will be shown later, the apparent cause is the slowdown in toxicology testing and in performing quality assurance on completed toxicology tests in part due to the staff vacancies. The chart reflects that starting in April 2015 the DMEC started to exceed the 90% standard on both the 60 day and 90 day standards.

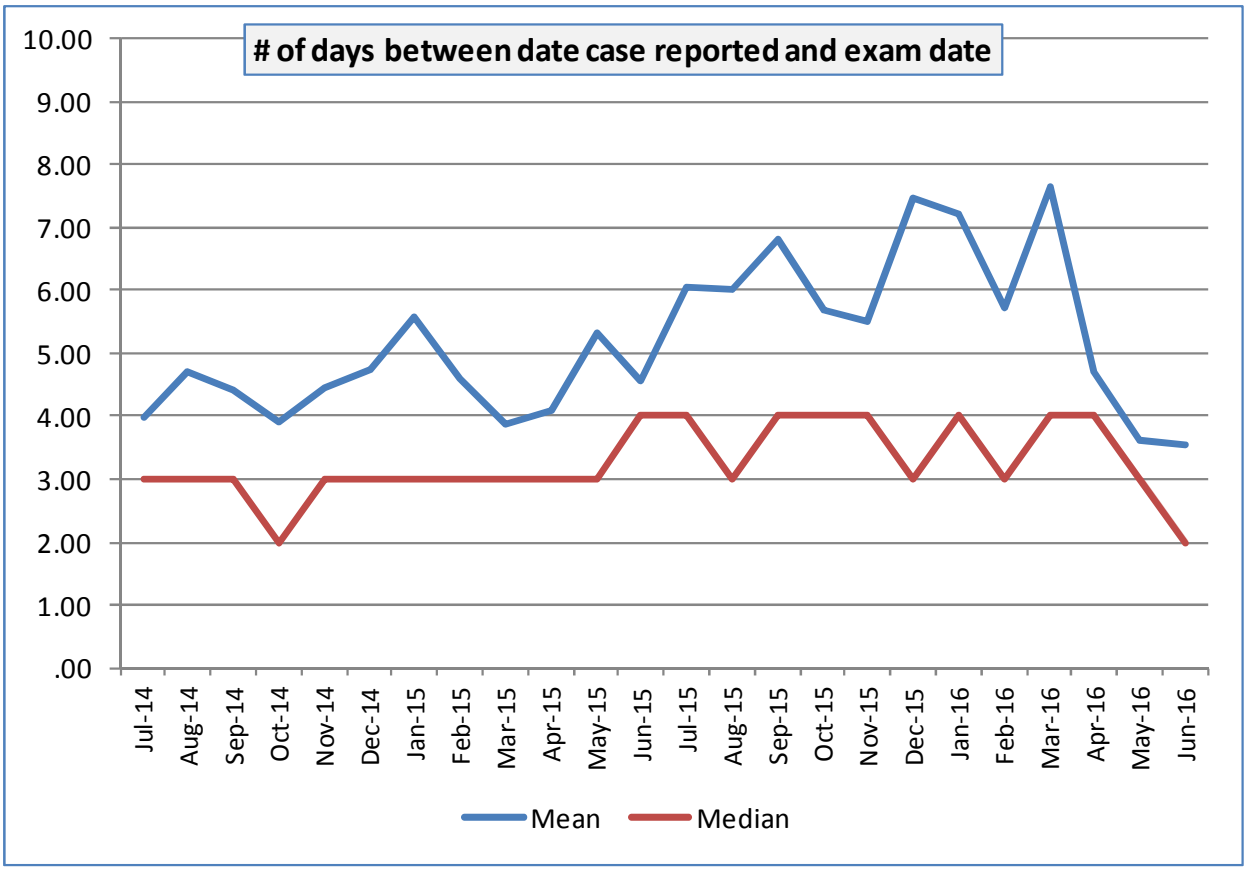


The chart above shows the mean elapsed time (blue line) for completing post-mortem exams (elapsed time between the date the medical exam was performed and the date the case is closed). As seen in the chart, turnaround times have been increasing. Again, the apparent cause is the drastic slowdown in completing toxicology tests.



The chart above shows the percent of medical exams that exceed the new NAME standard of medical exams performed within 24 hours (phase 1 deficiency) or 72 hours (phase 2 deficiency) of medical examiner jurisdiction accepted or coronial authorization granted.[12] For the purposes of this chart, the reporting date is the proxy for accepted jurisdiction. In either case, no more than 10% of cases can exceed these timelines. As seen in the chart, the DMEC has been out of compliance with both of the new standards. A significant factor in not meeting these new standards is investigations not being completed in a timely manner for certain cases (mostly "hospital cases"). Furthermore, a DMEC policy requiring that investigations be completed prior to an autopsy being performed delays the medical exams for up to several days. This delay issue is explored further in the workflow improvement section later in this report.

[12] For practical purposes, jurisdiction accepted/coronial authorization granted means when the death is reported and transport is dispatched to pick up the decedent. For the purposes of the chart, we used the date that the call comes in – usually the same day as the dispatch.



The chart above shows the mean elapsed time (blue line) for performing medical exams (elapsed time between the date the case was reported and the date the exam was performed). The red line shows the median elapsed time. As mentioned in the earlier chart, the DMEC will have to complete 90% of the medical exams within 72 hours in the future to avoid a NAME Phase II deficiency. The mean turnaround time will have to be reduced.

Reporting Desk

The Reporting Desk is a small, six station call center operation within the Operations Bureau. The Desk handles all incoming calls, enters basic information on incoming cases into their database, handles medical record requests, and processes clearance,[13] and rejected cases. There are no performance standards for the Reporting Desk nor is performance data collected

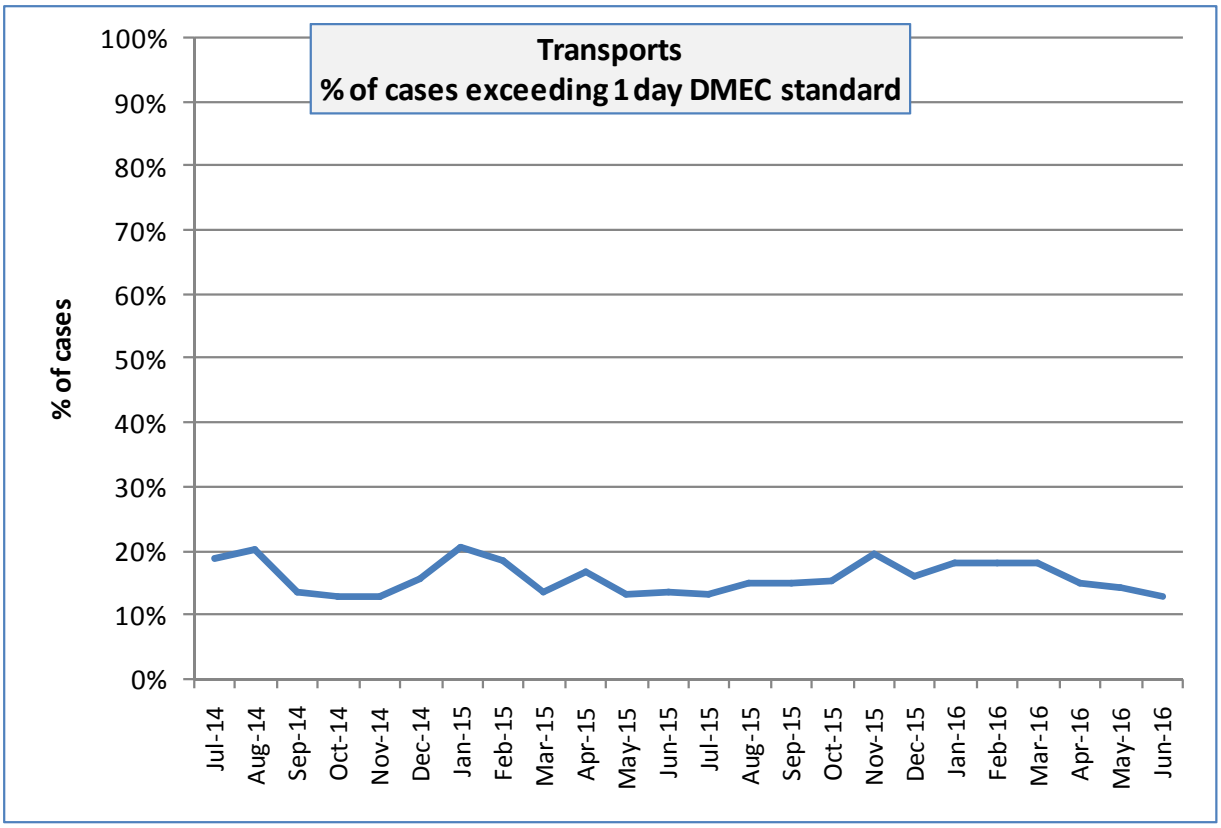
[13] Clearance cases are those that are accepted as being within the jurisdiction of the DMEC but are not investigated by the DMEC nor is the decedent brought in for an exam. Usually, a DMEC physician will review the death certificate prepared by an outside physician and approve it. These cases require minimal processing time by the DMEC.

on the operation. Performance data associated with a call center (e.g., answer time, abandon rate, queue time, wrap-up time) is normally collected by an Automatic Call Distributor or similar device. This type of data is critical to determining performance and staffing needs. In addition, the CME database does not capture the date or time when clearance cases are closed. This data point would be helpful for monitoring turnaround times on these clearance cases which are largely handled by Reporting Desk staff. The County Auditor-Controller previously examined the operation of the Reporting Desk and encountered the same data limitations. Due to the data limitations, we were not able to track the performance of the Reporting Desk or make any recommendations for staffing levels. Nevertheless, we did observe the operation of the Reporting Desk on two occasions to get a sense for how the work is organized and performed.

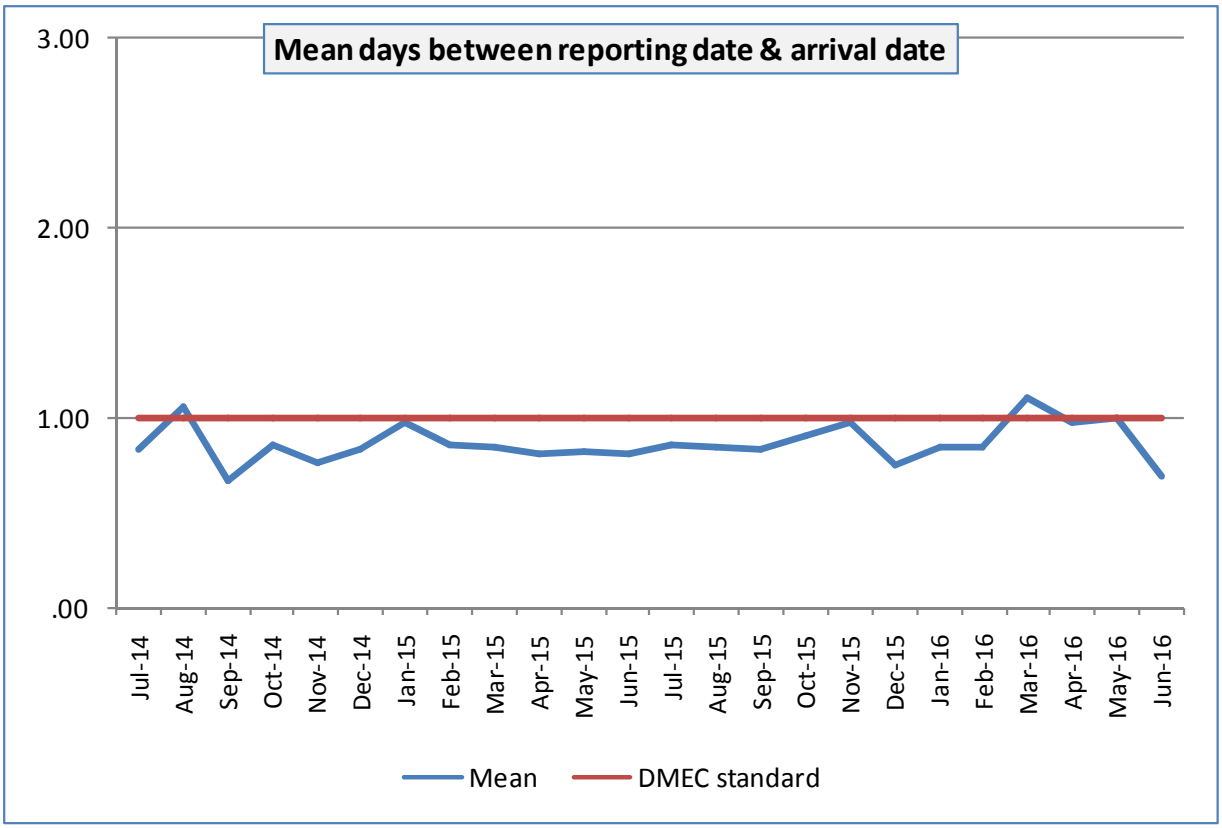
Transportation

The Decedent Services Unit (DSU) is part of the Investigations Division of the Operations Bureau. The Unit is largely staffed by Forensic Attendants and is charged with transporting decedents from death scenes and hospitals to the Forensic Sciences Center (FSC) and processing incoming decedents (weighing, tagging, and storing).

As of June 30, 2016, the DSU had 21 filled and active positions and one filled position on leave for a total of 22 positions. The DMEC has established a performance standard of completing transports within 24 hours of accepting jurisdiction. The following two charts on transports and reporting/arrival data help to understand how the DSU performed under this standard.



The chart above shows the percent of transports that exceed the DMEC standard of 24 hours between the original call and the arrival of the body. The DSU meets the standard 80-90% of the time and is not contributing to backlogs or timeliness problems elsewhere.



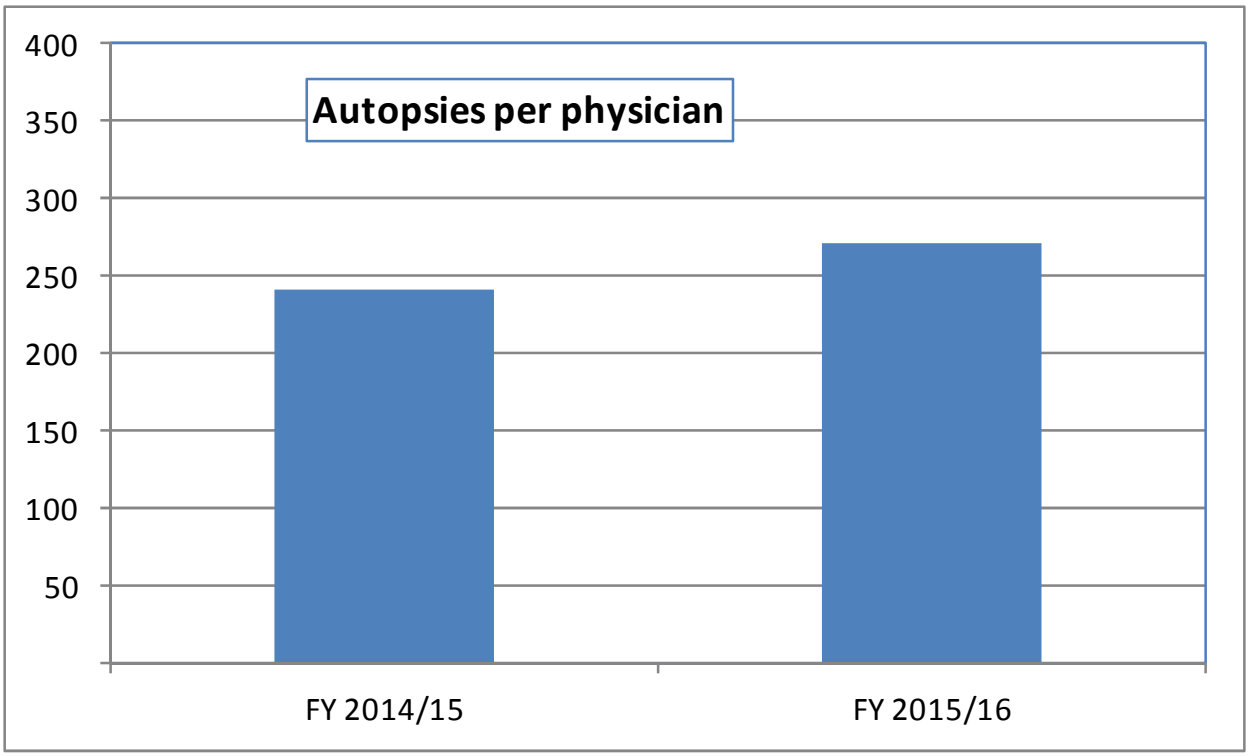
This chart shows the mean elapsed time for transporting bodies to the Coroner after the initial call. The Red line is the DMEC performance standard of one day (24 hours). The chart shows that the Transport section is meeting the DMEC standard and not contributing to backlogs or timeliness problems elsewhere.

Forensic Pathology

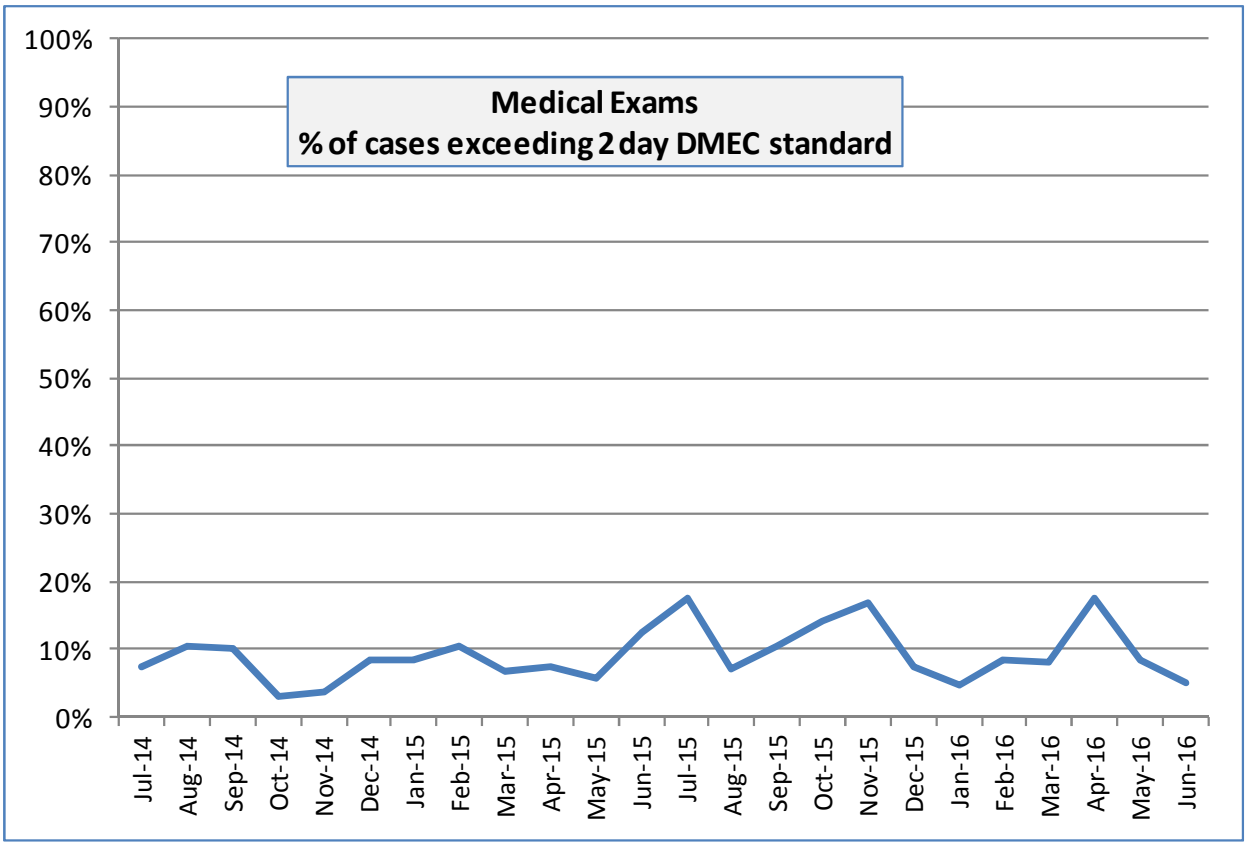
As of June 30, 2016, the Medical Division had 16 filled Physician Specialist positions with four vacancies, for a total of 20 budgeted positions. None were on leave. Performance standards have been established as follows:

- The NAME has a standard for accreditation that requires the medical staff to be of sufficient size that no autopsy physician is required to perform more than 325 autopsies/year (phase 2 deficiency) or 250 autopsies/year (phase 1 deficiency)?
- The DMEC has a standard of 48 hours between the approval of the investigation report and the completion of the medical exam (usually an autopsy).

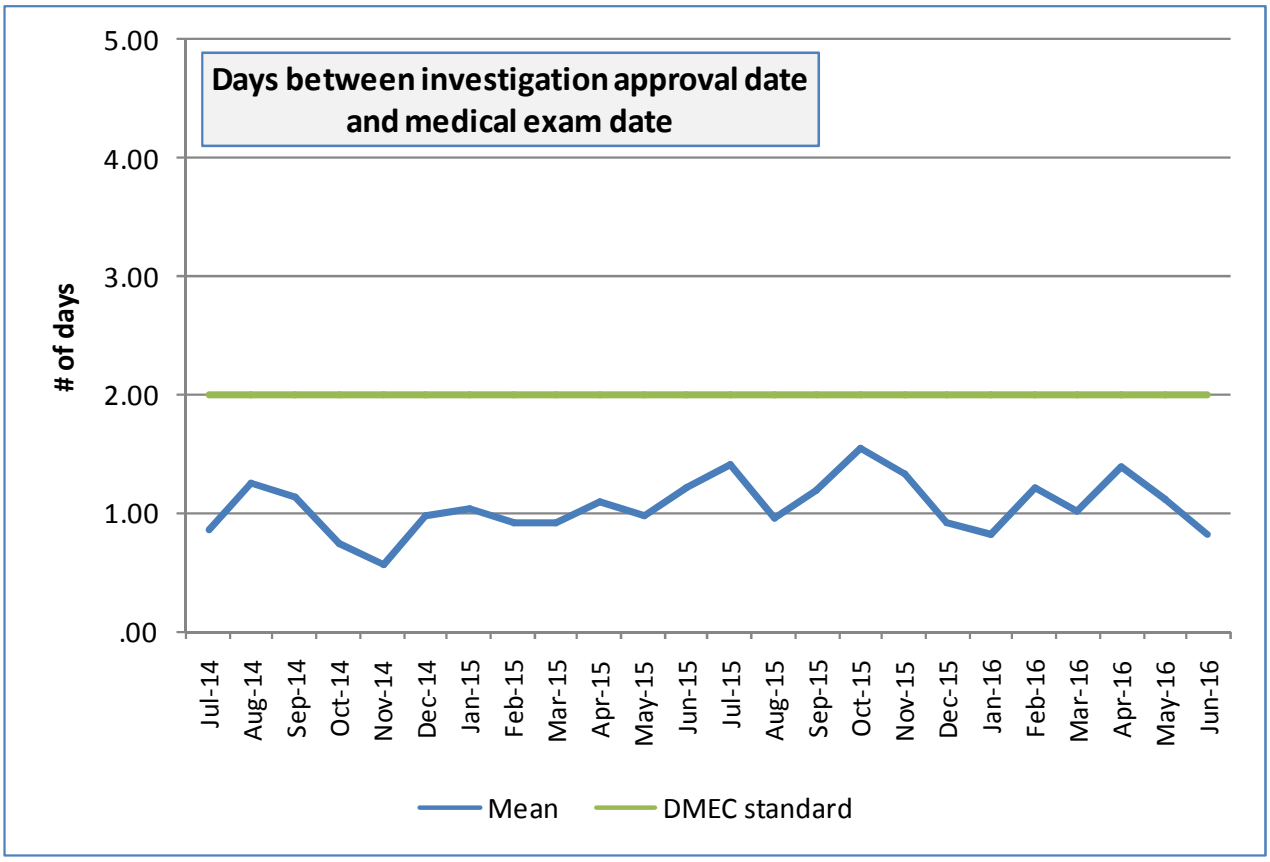
The following charts show how the DMEC has performed against these standards.



As seen in the chart above, physicians handled 272 autopsies on average per year in FY 2015-16. This is due to a 5% increase in autopsies over FY 2014-15 and a decrease in the number of filled Physician Specialist positions from 19 to 16 (bringing the number of vacancies to four as mentioned above). The DMEC is still within the NAME standard of 325 autopsies (phase 2 deficiency) although exceeding the phase 1 standard of 250.



The chart above shows the percent of medical exams that exceed the DMEC standard of 48 hours between the approval of the investigation report and the completion of the medical exam (usually an autopsy). As seen, most cases are within the standard, medical exams are being performed in a timely manner and not contributing to backlogs or timeliness issues elsewhere.



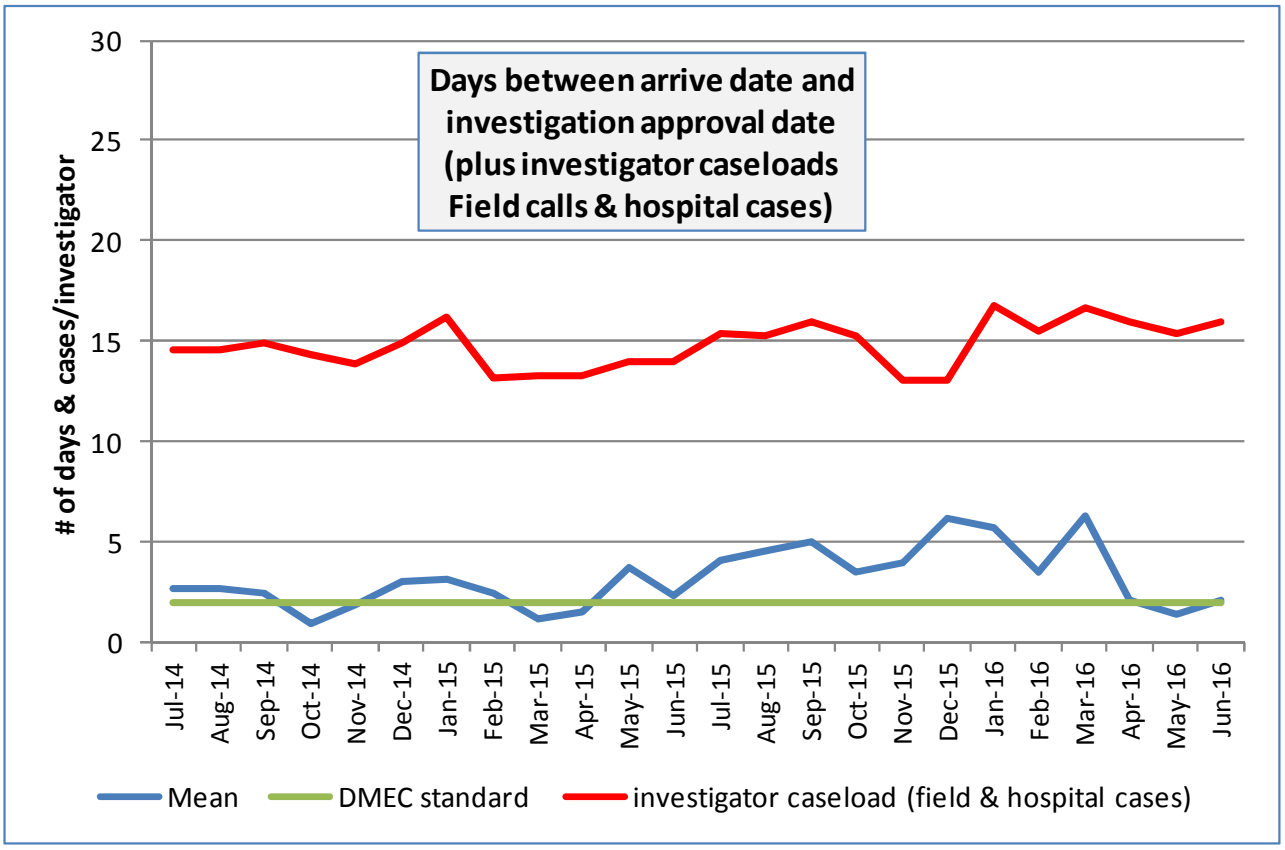
The chart above shows the mean elapsed time (blue line) for conducting medical exams (elapsed time between the approval of the investigation report and the completion of the medical exam.) The green line is the DMEC performance standard of two days. The chart shows medical exams are meeting the DMEC standard and not contributing to backlogs or timeliness issues elsewhere.

Investigations

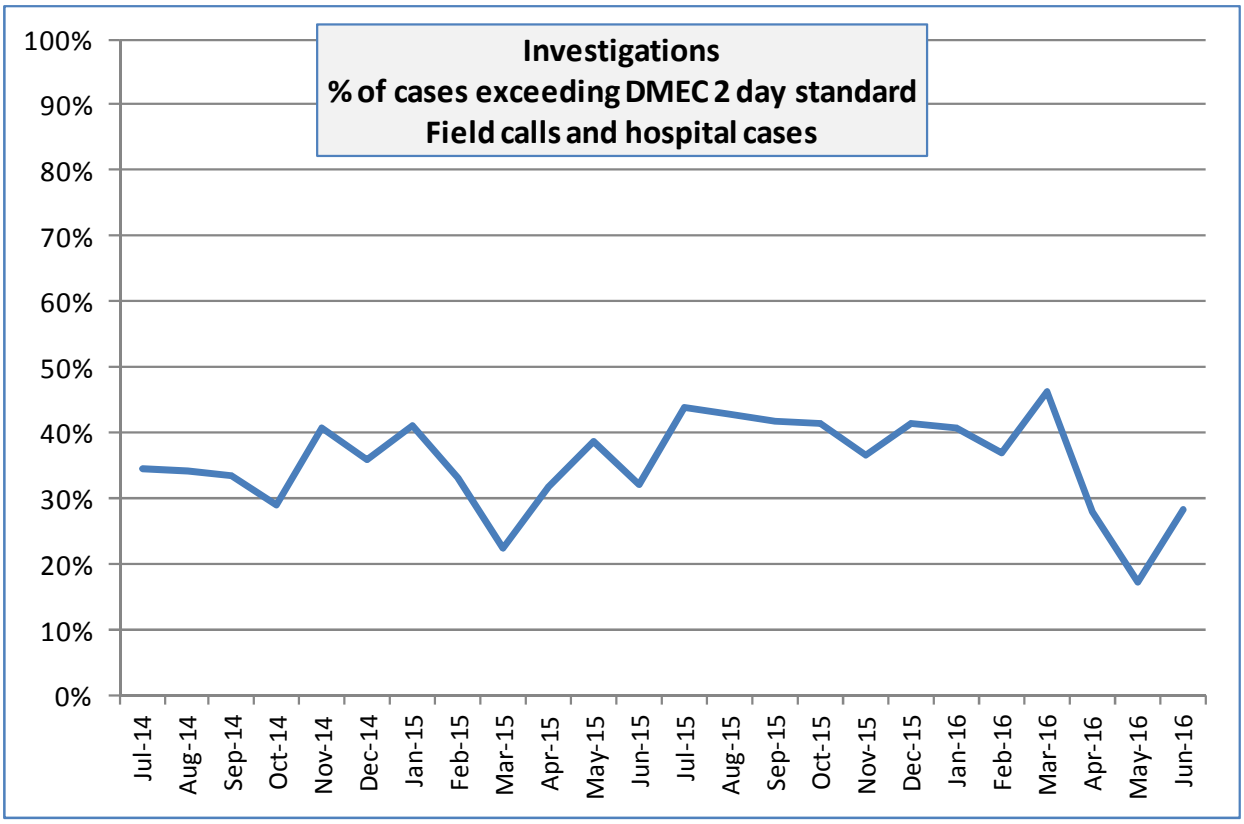
The DMEC employs investigators within two separate Divisions of the Operations Bureau. Investigators are the backbone of the organization and handle cases soon after accepting jurisdiction until a body is released to next of kin (or cleared for County disposition).

As of June 30, 2016, the investigations Divisions had 33 filled and active positions, 3 vacancies and 3 filled positions where the employee is on leave for a total of 39. The DMEC has

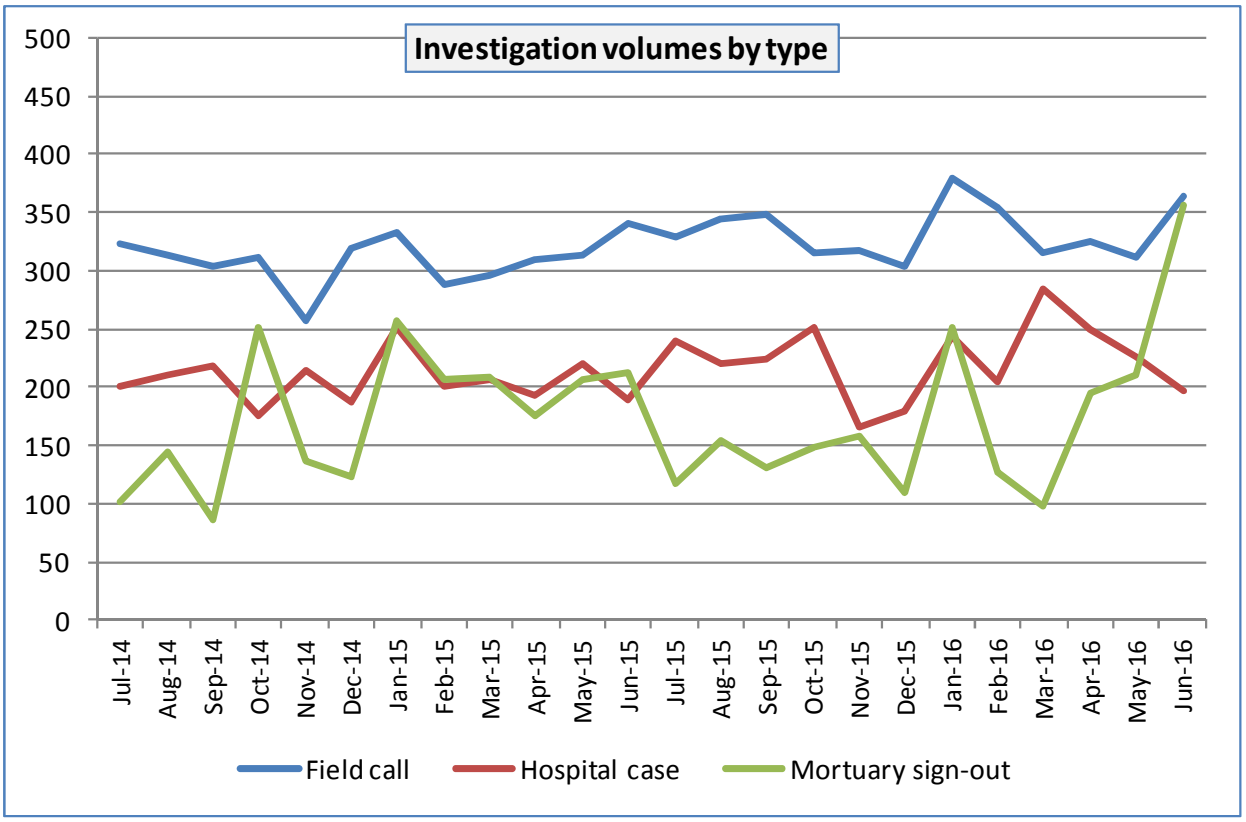
established a performance standard of completing investigations within 48 hours of the arrival of the body at the DMEC facility. The following charts shows how the organization has performed against the DMEC standard. There is no NAME standard addressing the timely completion of investigations.



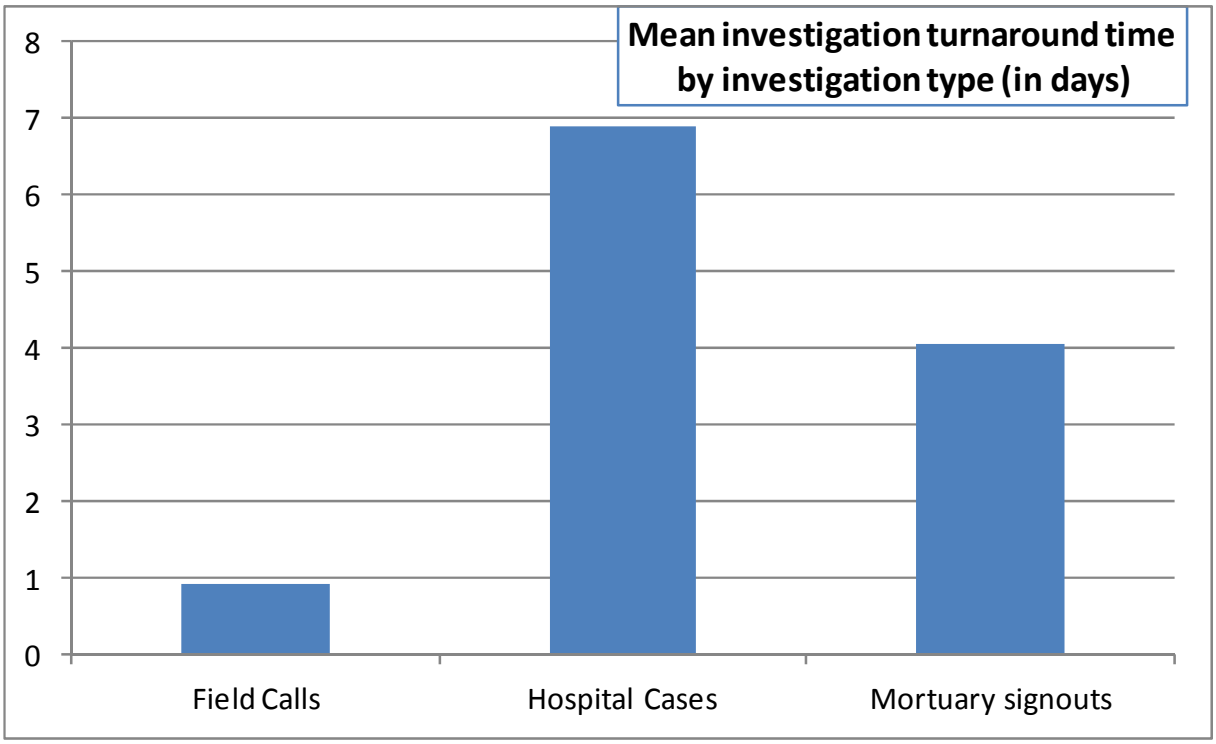
This chart shows the mean elapsed time for conducting investigations (elapsed time between the arrival of the body and approval of the investigation report.) The green line is the DMEC performance standard of 48 hours. The chart shows that the investigations staff has not met the DMEC standard during most of FY 2015-16. The red line shows the average monthly caseload (# of cases closed) per investigator. There is little apparent correlation between caseloads and timelines although other factors such as the mix of cases (each type with varying average timelines) can impact overall timelines and offset the effects of additional inputs such as number of staff.



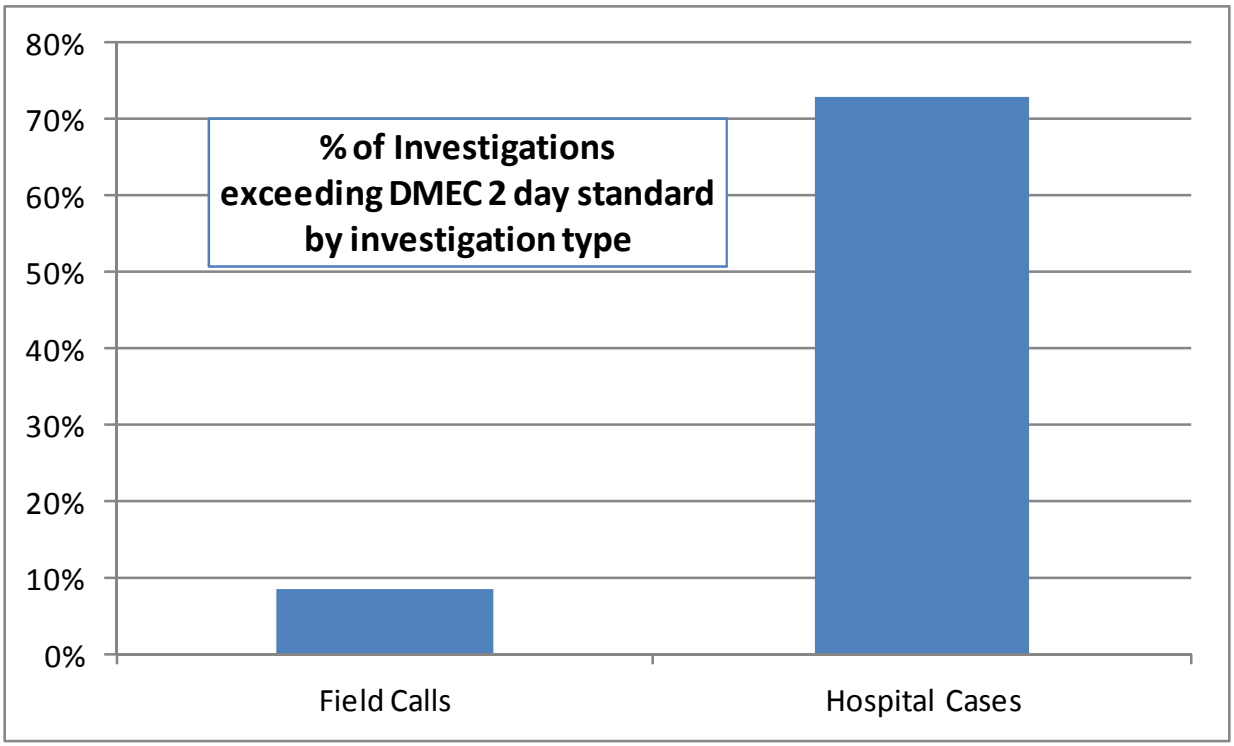
The chart above shows the percent of investigations that exceed the DMEC standard of 48 hours between the arrival of the body and when the investigators report is approved by a supervisor. This contributes to the delay in the Medical Division starting the autopsy. Further, the delay in the performance of the autopsy contributes to the current status that the Office is not meeting the NAME standards of 1) 90% of the cases are closed within 90 days of the autopsy, and 2) 90% of autopsies and external examinations performed within 72 hours of jurisdiction being accepted.



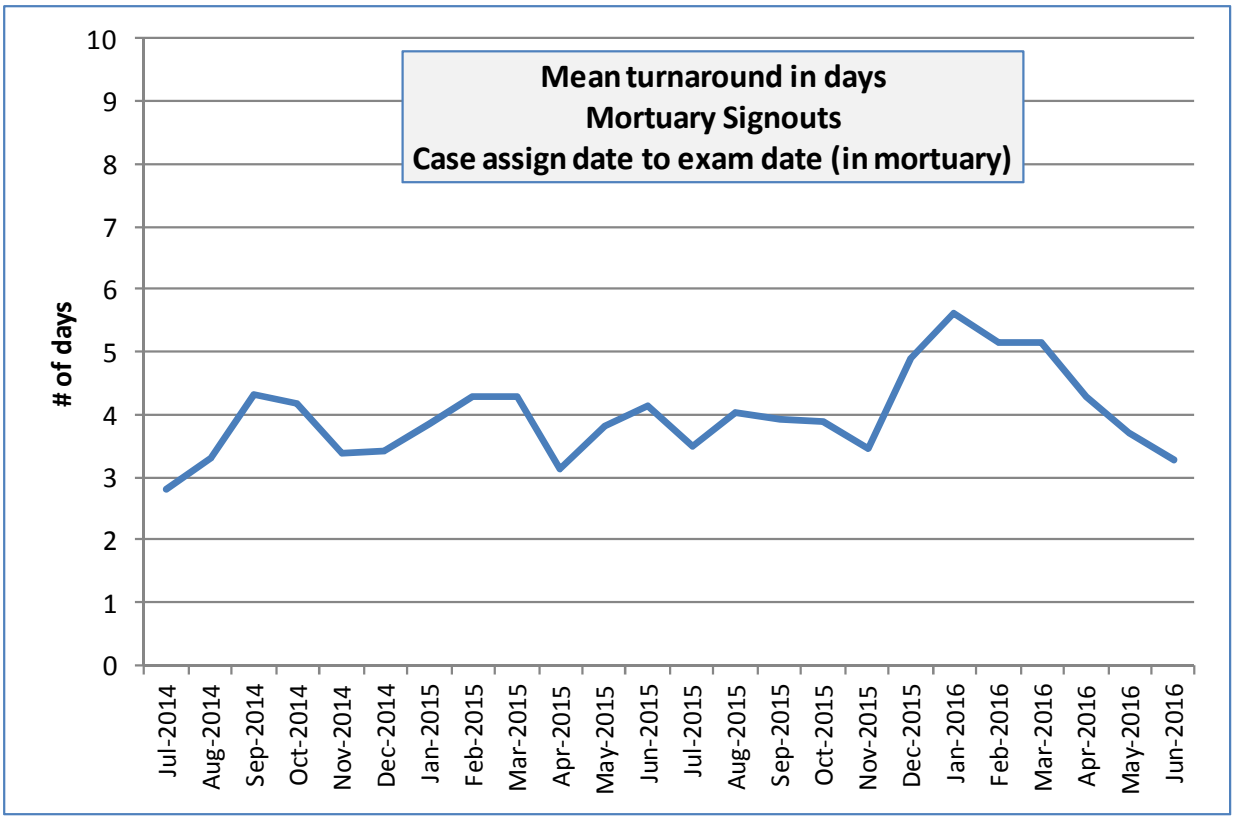
The chart above illustrates investigation case volumes by type. Field calls note a case where the Investigation starts at the death scene (unless it is a hospital), usually a residence or in a public location. Field calls are the highest priority. Hospital cases note a case where the decedent died in a hospital and is then transported to the DMEC facility where the investigator conducts the investigation. Mortuary sign-outs note a case where the body is not transported to the DMEC facility and the investigator travels to a mortuary and performs an external examination of the body. This chart shows that field calls represent over half of the investigator caseload.



The chart above shows the mean (average) turnaround time for completing investigations (measured as elapsed time between when the body is brought in to the Coroner and when the investigation report is approved by a supervisor) for field calls, hospital cases and mortuary signouts. The turnaround time for mortuary signouts is measured from the time of case assignment to the date when the investigator visits the mortuary and examines the decedent. Field calls, despite representing over half of the investigator caseload, are completed quickly and within the DMEC standard of 2 days. Hospital cases are processed more slowly. Mortuary sign-outs are conducted within four days on average. The below-standard performance as illustrated in the earlier charts is due to these hospital cases and mortuary sign-outs. The hospital cases in particular are contributing to the office's current inability to meet the NAME standard 90% of medical exams are completed within 72 hours of the Coroner accepting jurisdiction.



The chart above shows the percent of each case type that exceeds the DMEC standard of two days for investigations. As seen, field call investigations are mostly within standards. Hospital cases usually exceed the DMEC standard timeline. This is contributing to the Office's non-compliance with the NAME standard that for 90% of cases, the medical exam is completed within 72 hours.



This chart shows the historical trend in turnaround time for mortuary signouts. As seen, the mean turnaround time varies between 3 and 6 days.

The preceding charts demonstrate that investigations are not being performed according to DMEC standards and contribute to backlogs in cases waiting to be investigated, cases waiting for an autopsy and timeliness issues in performing medical exams according to DMEC and NAME timeliness standards.

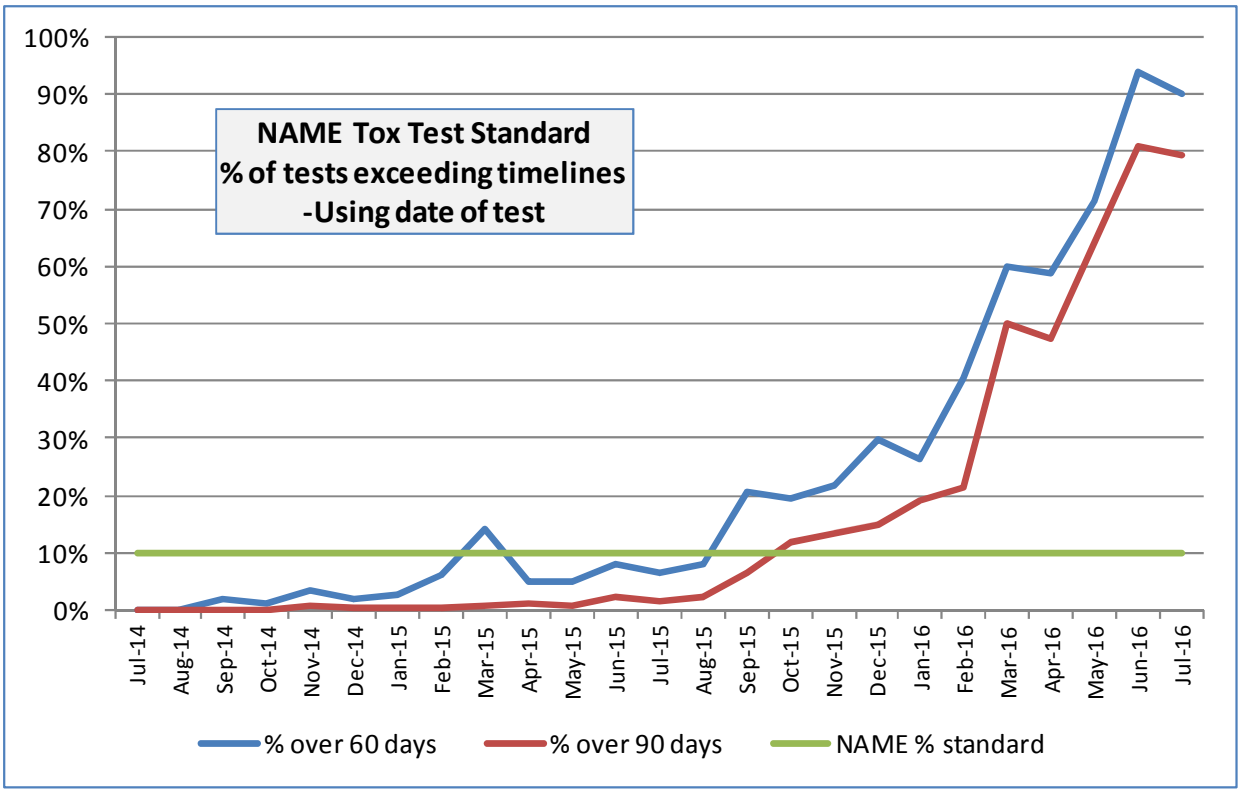
Forensic Science Laboratories

The DMEC operates a Scanning Electron Microscopy (SEM) lab for measuring the presence of gunshot residue (GSR) in swabs taken off decedents (usually suicide victims to ensure that the case is not really a homicide). The lab also performs analysis of tool marks (i.e., marks in tissue or bone from weapons like knives, swords and hammers) which are crucial evidence in criminal proceedings. The DMEC has also been attempting to start a DNA lab for the

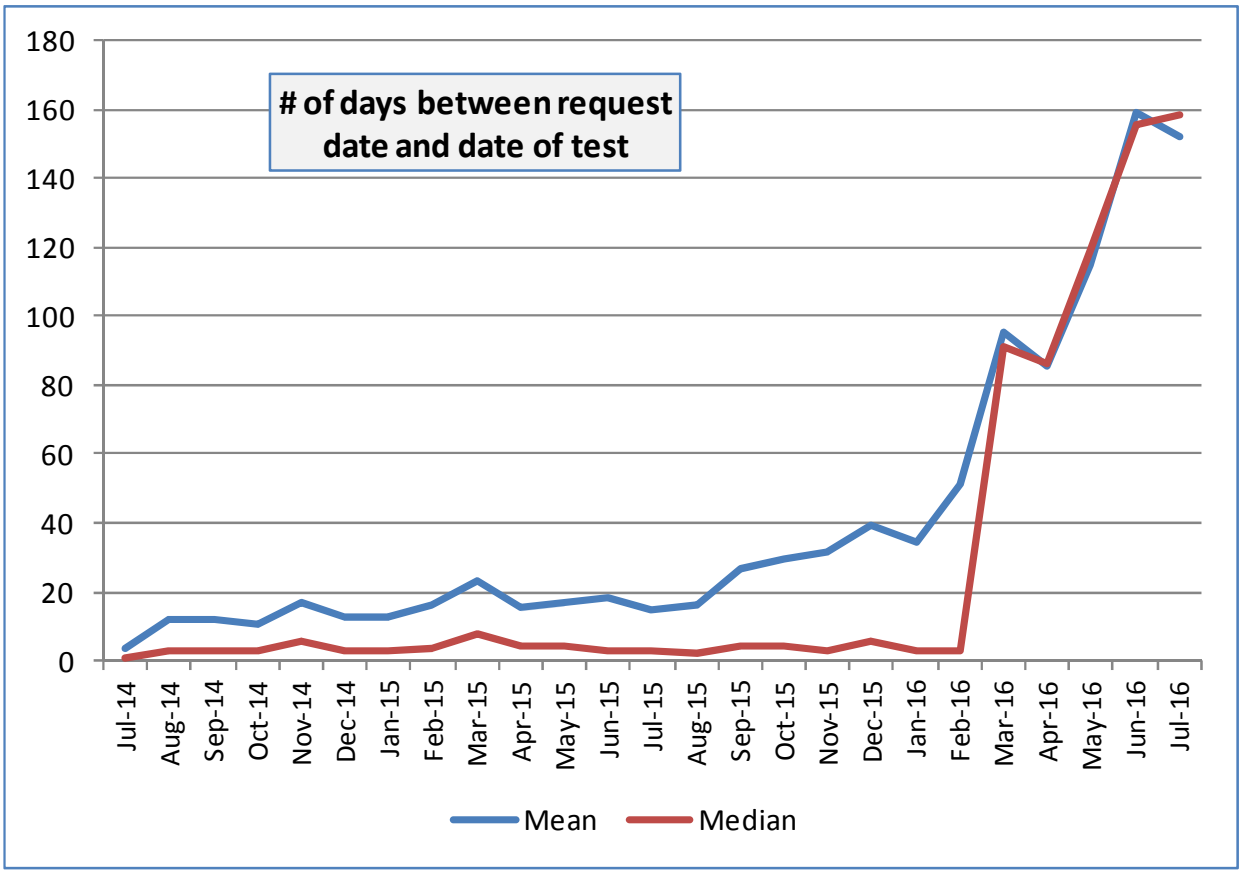
purposes of establishing paternity, identifying congenital conditions for the benefit of survivors and identifying doe cases (identity unknown).

As of June 30, 2016, the Forensic Science Laboratories Bureau (encompassing the evidence room, toxicology lab, histology [i.e.the microscopic study of the cells and tissues of animals (including humans)] lab, DNA lab and SEM/tool mark lab) had 9 filled and active Senior Criminalist positions and 4 vacancies for a total of 13 Senior Criminalist positions. For the purposes of examining performance and workloads we focused on the toxicology lab which has the majority of positions and is subject to stringent performance standards promulgated by NAME. Histology is largely outsourced by the DMEC and the DNA lab is not yet operational.. The SEM/tool mark is a small, low volume operation handled by two criminalists

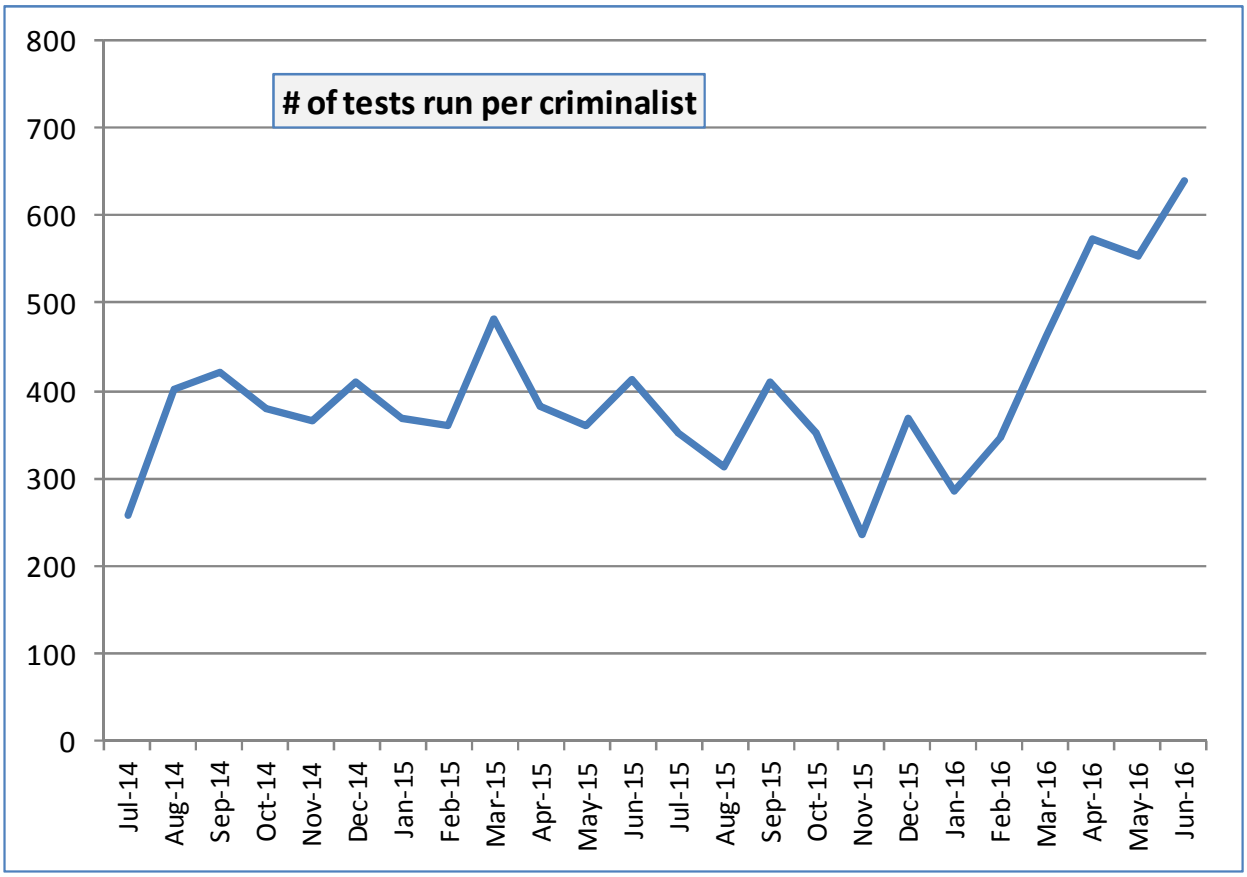
The National Association of Medical Examiners (NAME) has a standard for accreditation that requires that toxicology tests be completed within 90 days (for phase 2 deficiency) or 60 days (phase 1 deficiency) from the time of test submission.



The chart above shows the percent of toxicology tests that exceed the NAME standard of toxicology examinations completed within 90 days (for phase 2 deficiency) or 60 days (phase 1 deficiency) from time of test submission (note: for this chart we measured from the time the test was requested until the time the test was actually performed). In either case, no more than 10% of tests can exceed these timelines. As seen in the chart, the DMEC has been seriously out of compliance with the phase 2 deficiency standard since fall of 2015.



The chart above shows the mean elapsed time (blue line) for performing toxicology tests (elapsed time between the request date and the actual test date). The red line shows the median elapsed time. The chart shows that lab turnaround times have been increasing dramatically since the winter of 2016 which indicates that additional staffing are necessary for the Toxicology Lab to manage their caseload per the NAME standard that 90% of toxicology tests are completed within 90 days.



To evaluate the workload of the Senior Criminalists (i.e., staff that perform lab tests) and the effect of workloads on backlogs, timeliness and, ultimately, staffing requirements, we measured the historical trend of the number of tests performed per criminalist (i.e., testloads). The chart above shows testloads (tests per Senior Criminalist).[14] As seen, testloads varied between 300 and 400 and then started rising dramatically in the winter of 2016. During this time, the number of filled and active positions declined from 13 to 9 as a result of several departures. In addition, two Supervising Criminalists left during this time and had to be backfilled from the Senior Criminalist ranks. While overall testloads vary significantly from month to month, the long term volume trend is stable. Testloads per criminalist increased in 2016 because of staff departures and the inability to quickly backfill the positions. This speaks to the need for additional staff to manage the caseload per the NAME standard that 90% of toxicology tests are completed within 90 days.

[14] A single coroner case can involve several different toxicology tests. Hence the volume of toxicology testing is much higher than the number of coroner cases.

Based on the finding presented in this section, the transport section and medical examiners completion of autopsies are meeting performance standards. The Investigations unit and the Toxicology Lab are not meeting performance standards. The next section addresses recommendations for staffing levels to manage the DMEC caseload for their core functions per self-imposed and NAME standards.

What staffing resources are needed to achieve standards?

The performance analyses in the previous section showed that the current number of physicians, forensic technicians and forensic attendants is adequate as timelines are within standards for medical exams and transports. However, performance was below both DMEC and NAME standards for investigations and toxicology testing. The balance of this section presents our FTE requirement recommendations for these areas.

Investigations

Setting a goal of average investigation case turnaround of one day would enable the DMEC to meet its internal performance standard. It would also aid in meeting the recently adopted NAME standard of 90% of autopsies and external examinations performed within 72 hours from the time that medical examiner jurisdiction is accepted. This is because the DMEC typically holds off on performing the medical examination until the investigation report is complete. As investigations are labor intensive, the primary input into performance is available investigator time and caseload size.

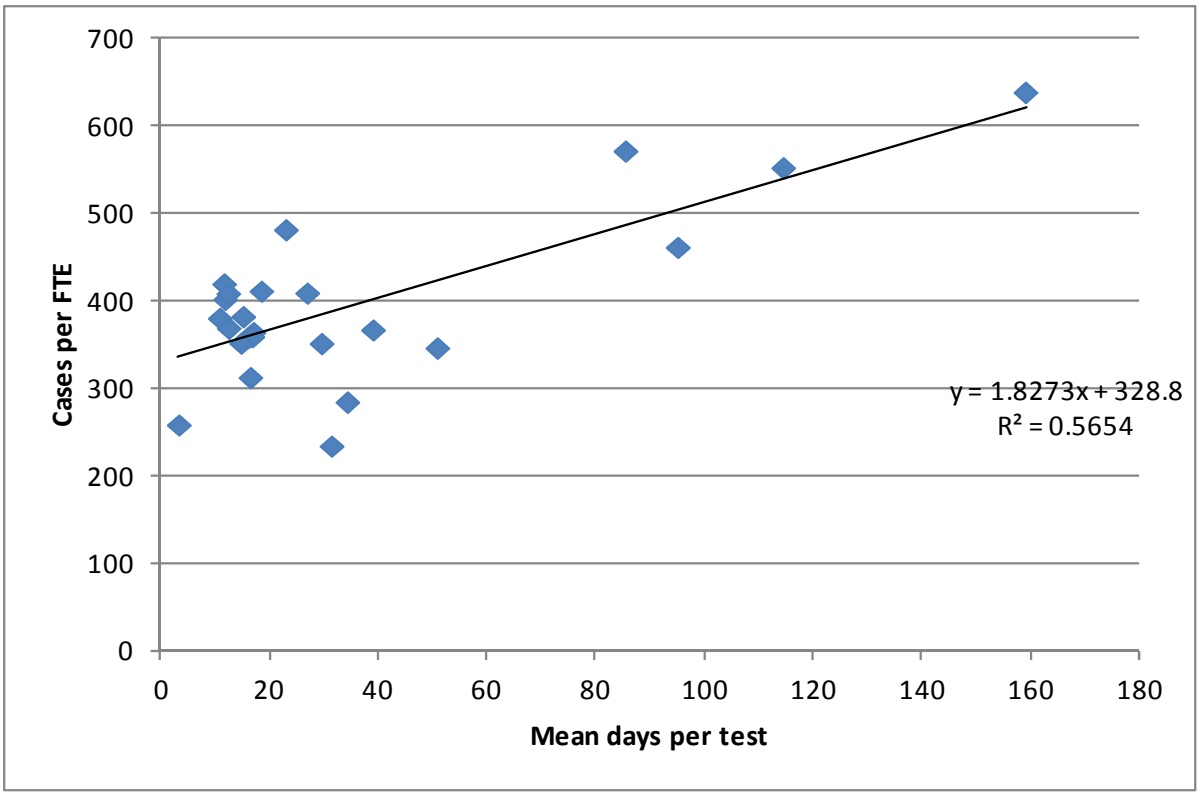
There was no apparent correlation between caseloads and turnaround times but this is because not all case types require the same amount of time and the volumes of each case type vary month by month so using regression analysis is not practical. Therefore, it is not possible to simply plot the caseload number (and the required FTEs) that would yield the ideal turnaround time. However, we were able to calculate the ideal FTE number by using

another method. By using the results of a work distribution survey data we conducted at the DMEC, we calculated a standard time for conducting each type of investigation (5.3 hours for field calls, 3.5 hours for hospital cases, and 1.6 hours for mortuary sign-outs). This was used to calculate the total amount of time dedicated to each case type and the resulting FTE equivalent of this time (6.1 FTEs for hospital cases, 2.3 FTEs for mortuary sign-outs). We applied a mathematical factor that would simulate what would be required in actual practice to reduce turnaround time by 86% for hospital cases (reducing turnaround time from 7 to 1 days) and 50% for mortuary signouts (reducing turnaround time from 4 to 2 days). Note that field calls are already processed in a timely manner. This calculation yielded the number of FTEs required to reduce turnaround times: 5.3 investigator FTEs for hospital cases and 1.2 FTEs for mortuary signouts. We further calculated the FTE equivalent of the amount of overtime and callback time that investigators logged during FY 2015-16. This came to 5.9 FTEs (8,909 hours of overtime in FY 15-16 divided by 1,500 hours – the number of active time per investigator per year). The total FTE requirement for reducing timelines and eliminating the excessive overtime came to 12.4 (i.e., 5.3+1.2+5.9). Added to the current complement of 33 filled investigator positions yields a total requirement of 45.4 investigator FTEs (or 46 when rounded up to the nearest whole FTE number). Since an average of two investigators are on leave at any given time, this brings the total required complement of filled positions to 48.

Forensic Labs

Unlike investigative turnaround times and caseloads, there is a fairly strong correlation between toxicology test turnaround times and testloads (i.e., tests performed per Senior Criminalist).[15]

[15] As mentioned earlier, a coroner case can encompass several toxicology tests so we are using the term testload instead of caseload to be more accurate on terminology.



The scatter graph above shows the relationship between testloads (vertical axis) and turnaround times (horizontal axis). We fitted a line using linear regression to determine if there is a positive correlation between testload per Senior Criminalist and timeliness.[16] This regression showed a degree of correlation of 57% which demonstrates that most of the variation in timeliness is explained by testload per Senior Criminalist. Therefore, if you reduce the testload level by hiring more staff, you should also be able to reduce the turnaround time per test. Using this analysis, we calculated the number of FTEs required to maintain testloads associated with a target turnaround time of 20 days. This testload level turned out to be 360 cases per criminalist. Comparing this to the average test volume of 4,800 tests over the last two years yielded a requirement of 13 FTEs. We added two FTEs to handle peakload volumes (6,300 tests per month) and research and development plus one additional FTE to handle quality assurance to bring the required FTE level to 16. One additional position should be added to account for leaves. This does not account for

[16] Linear regression is a widely used statistical approach for modeling the relationship between a scalar dependent variable (days per test) and one or more explanatory variables (testload).

criminalists needed in the DNA or SEM/Tool mark labs (discussed in the next section of this report).

Recommendations

Recommendation #	Description
1	Implement an Automatic Call Distributor (ACD) to track and measure performance of the Reporting Desk to determine appropriate staffing levels.
2	Maintain the current level of Forensic Attendant positions in the Transport Section.
3	Maintain the current level of Physician Specialist and Forensic Technician positions.
4	Add Coroner Investigator positions to the Coroner to bring the total number of budgeted and authorized positions to 48.
5	Add Criminalist positions to the DMEC to bring the total number of budgeted and authorized positions assigned to the toxicology lab to 17.
6	Add one Supervising Coroner Investigator (lieutenant) to investigations.

What workflow improvements can be undertaken?

DNA and GSR/Tool Mark labs

The DMEC has been working to establish a DNA lab currently by focusing on validating equipment and procedures. Once it is operational, the objective for the DNA lab is to produce DNA markers to handle:

- Doe cases (i.e., the identity of the decedent is unknown). The DMEC handles a few hundred Doe cases a year. Currently, tissue or bone samples are shipped to a lab

operated by the U.S. Department of Justice (DOJ) for analysis and possible matching with missing person files.

- Paternity testing which comes into play for survivor benefits.
- Genetic testing for sudden adult deaths (to see if there are genetic markers for family members).

Weapons used in homicides at the tool mark lab

The DMEC also operates a Scanning Electron Microscopy (SEM) lab for measuring the presence of gunshot residue (GSR) in swabs taken off decedents (usually suicide victims to ensure that the case is not really a homicide). The DMEC performs these tests on two SEM devices. Tests are also performed (at cost) for up to 80 law enforcement agencies in California. The lab also performs analysis of tool marks (i.e., marks in tissue or bone from weapons like knives, swords and hammers) which are crucial evidence in criminal proceedings

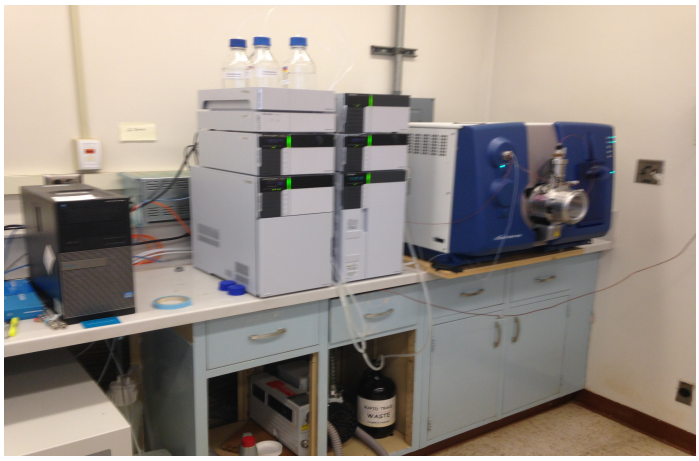
There is increasing consensus in the law enforcement community that GSR testing lacks accuracy and that the credibility of test results often compromised by potential contamination issues. Many coroner agencies in the country (and the FBI) have stopped performing GSR tests due to these issues (though they may continue to take samples).

There are alternative diagnostic options for DNA testing such as the current alternative of sending samples to the California State Department of Justice Bureau of Forensic Services. Paternity testing and other genetic testing can be handled by private labs. The county should engage in a policy discussion about whether County funds and DMEC management attention and staffing should be dedicated to DNA testing when more pressing situations such as performing toxicology tests in a timely manner are present. The County should also determine if the benefits of GSR testing outweighs the costs and

the usefulness of this procedure considering the questionable accuracy and credibility of the tests. At a minimum, the County should determine whether it makes sense to perform the tests for outside agencies when an increasing number of agencies no longer perform the function at all.

Toxicology Outsourcing

Some medical examiners around the country are outsourcing toxicology lab work to private laboratories. Outsourcing is done to reduce unit costs, improve turnaround times and to take advantage of the research and development performed by the private labs. The DMEC should consider a pilot privatization program to investigate this option.



State of the art Liquid Chromatography Mass Spectrometry (LCMS) equipment used for performing toxicology tests. These devices have not yet been put into production at the DMEC.

Analyzing Medical Records

Pathologists devote significant time to requesting and reviewing medical records and forensic lab test results (the equivalent of 3 FTEs of time). Much of this work could be performed by less expensive and easier to recruit nurses who could summarize the records and test results, add the information to the case file and notify the pathologist when it's ready. This would better leverage the time of the physicians.

Timing of Medical Exams

As mentioned earlier, DMEC physicians hold off on performing medical exams until the investigation report is completed and approved (which, on average, can take up to six days based on FY 2015-16data). Physicians prefer to have the investigation report in hand before starting the medical exam as it can contain relevant information about medical history, drugs found at the scene, etc. However, there may be many cases where the case report may not have this type of information or an exception can be made based on the nature of the decedent or apparent cause of death. In other words, the report may not be

necessary for the physician to start the autopsy. The DMEC should revise their procedures to allow for expediting the medical exam in these situations as it may prove critical in meeting the new NAME timeliness standards of 90% of autopsies and external examinations performed within 72 hours from the time that medical examiner jurisdiction is accepted.

Next of Kin Notifications

A common problem in the Operations Bureau is identifying cases where bodies can be released to families and next of kin and contacting (and persuading) families to take custody of the bodies. This situation is magnified when families lack the funds to arrange a private interment (e.g., cremation or burial). Some of these cases ultimately become County dispositions (e.g., cremation and burial of cremains at County expense). Investigators usually get drawn into this administrative burden which takes away from their ability to address more pressing and time sensitive investigations. Some coroner jurisdictions have started using social workers to perform this task and the DMEC should consider the practice as well. This will control the census count in the crypt and free up investigators for more pressing investigation work.

Out-of-jurisdiction Cases

Many cases accepted by the DMEC may not be within coroner jurisdiction as established in California Government Code §27490, et. Seq. Some private physicians are reluctant to sign death certificates for reasons unknown to the consultant and refer cases to the Coroner. Many of these cases become "hospital cases" at the DMEC which are lower priority, are handled slower, and extend turnaround times. The DMEC should not be accepting cases where the decedent was in the care of a private physician where cause of death is not in question.

Recommendations for Workflow Improvements

Recommendation #	Description
7	The DMEC should consider reducing their internal investigation timeliness standard from 48 to 24 hours so that it is commensurate with the new NAME

	standard for completing medical exams within 72 hours.
8	Consider outsourcing DNA lab work to the State Department of Justice for criminal matters and private labs for paternity or family genetic testing.
9	Refrain from performing gunshot residue and tool mark tests for outside agencies and limit these tests to just Los Angeles County requirements.
10	Perform a pilot privatization project by outsourcing a cohort of cases to a private forensic laboratory. This cohort could consist of auto collisions and suspected drug overdoses. The pilot should be evaluated over a six-month period by analyzing and comparing unit costs, turnaround times and the range of testing services provided by the lab.
11	Hire two nurses dedicated to reviewing and summarizing medical records and forensic lab test results and updating case files for the physicians.
12	Consider revising medical examination procedures to allow for starting autopsies as soon as the decedent is in custody rather than wait for the investigation report to be complete in certain cases (i.e., drug overdose, motor vehicle accidents, suspected natural deaths, suspected suicides).
13	Hire two social workers to work with families to expedite bodies being claimed and released. These social workers can also work with families to find and procure funds for interment.
14	Consider establishing a relationship with a local medical school to administer the paperwork for DMEC fellowships and residencies.
15	Work with County Counsel to clarify which cases are truly within Coroner jurisdiction and develop procedures for rejecting out-of-jurisdiction cases.
16	Equip investigators with an Ipad-based application for collecting Form 1, Form 2 and Form 3a data in the field.

Is there a need for a second facility?

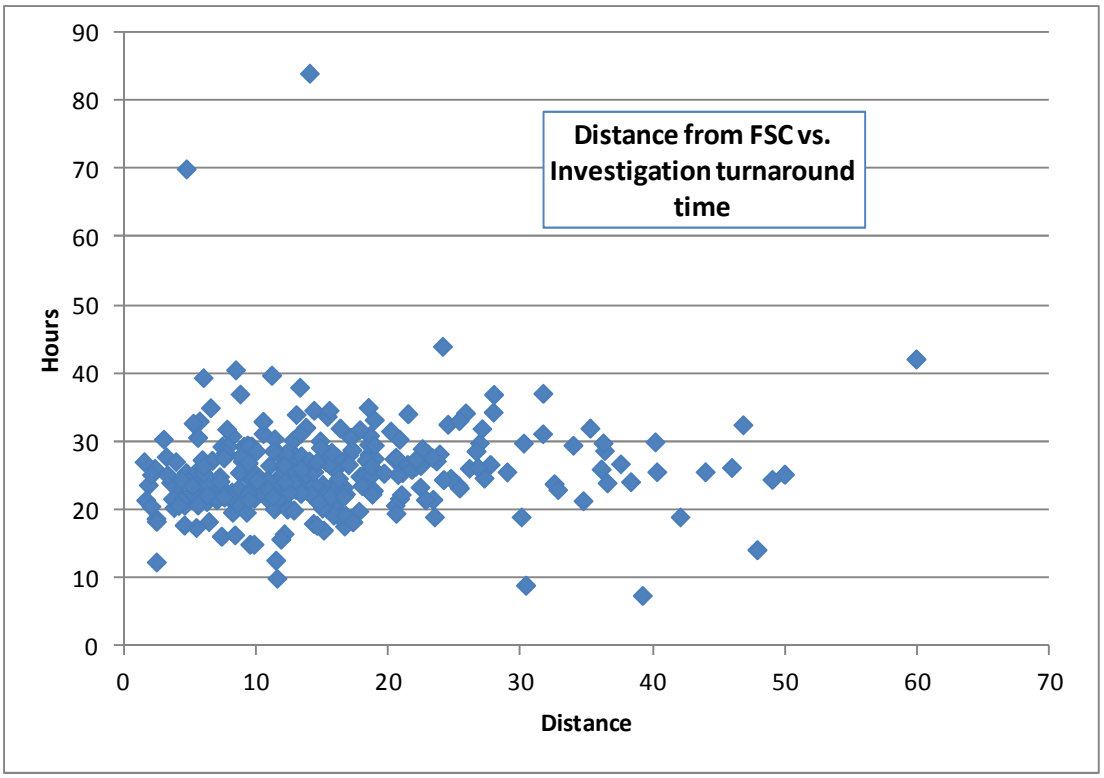
Currently, the DMEC is served by three facilities:

1. The Forensic Sciences Center (FSC) in East Los Angeles where the significant majority of operations are carried out.
2. A small office in the Antelope Valley
3. A small office co-located with the City of San Fernando Police Department.

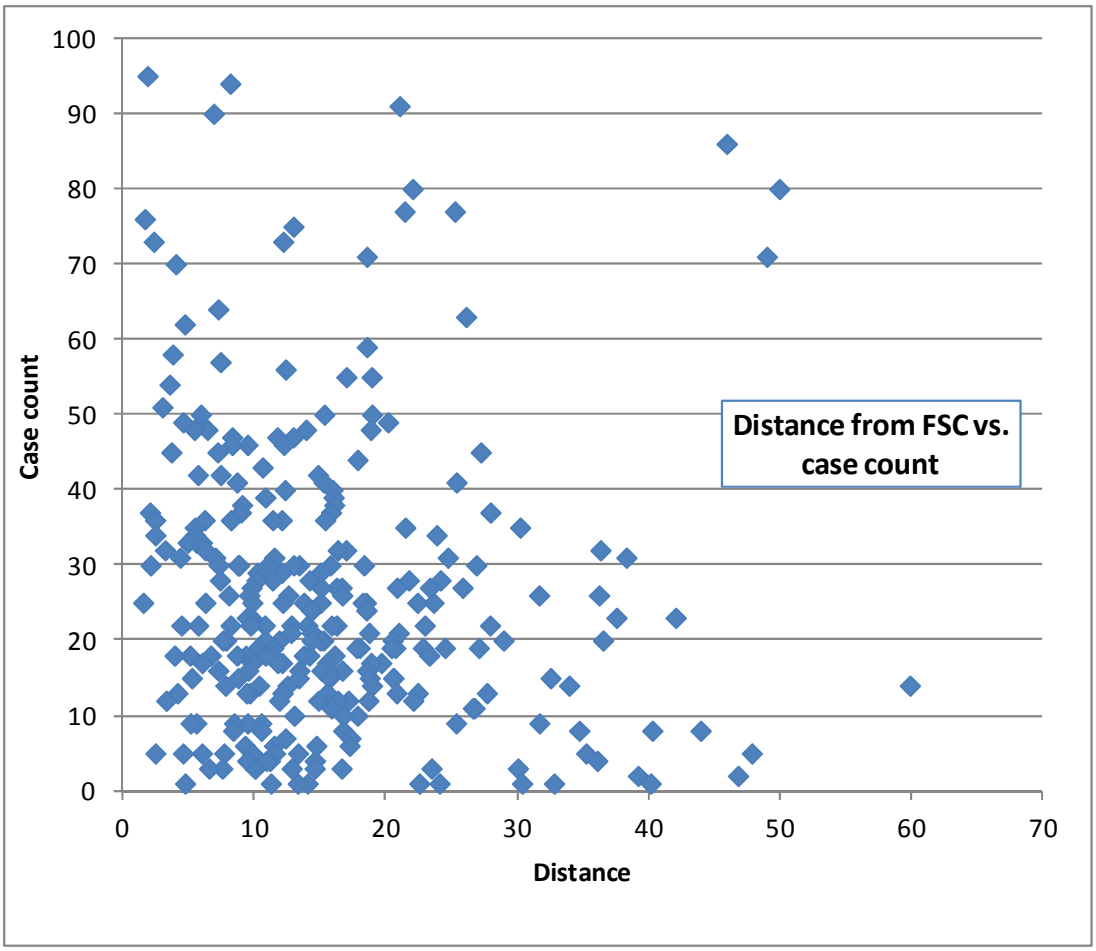
The last two offices house out-stationed investigators only.

Given that investigators and transport staff have to travel around the County to death scenes we analyzed the impact of distance on processing turnaround times. Traffic congestion is a serious impediment to productivity in the County and has been influential in establishing field offices in the northern reaches of the County. This allows a few investigators to be closer to death scenes in those reaches of the County although Forensic Attendants still have to venture out from the main facility in East Los Angeles to retrieve and transport the bodies.

We compared investigation turnaround times for each zip code to the distance from those zip codes to the main DMEC facility to see if there was a positive correlation between turnaround time and distance. Positive correlation, in turn, could demonstrate the need for additional field offices. The charts on the following pages show the results of this analysis.



The scatter graph above shows the relationship between distance (measured between the Forensic Science Center (FSC) in East Los Angeles and the zip code where the decedents died) and investigation turnaround time. As seen in the chart, investigation turnaround time does not vary much as distance increases. Therefore, there is little correlation between distance and investigation time. As travel distance increases, the time varies little. Part of the explanation for this is that field offices have already been established in the areas of the County (with high case volumes) that are some distance from the DMEC office. These locations are San Fernando and the Antelope Valley. Without these field offices the graph may have shown a greater correlation between time and distance. There are several zip codes in the northern San Fernando Valley with turnaround times in excess of 30 hours (the Countywide mean is 22 hours for field calls) which may indicate the need for additional investigators in that field office or it may indicate that field offices have a limited effect in reducing turnaround times. It may also indicate a general shortage of investigators. Once the investigator vacancies are filled, this will need to be revisited to determine if they are able to meet performance standards.



The scatter graph above shows the relationship between distance (measured between the DMEC office in East Los Angeles and the zip code where the decedents died) and the number of cases in each zip code. Zip codes that have high caseloads and are distant from the main DMEC facility (>25 miles) tend to congregate in the northern San Fernando and the Antelope Valleys – locations that currently have field offices. This supports the continued operation of the two field offices.

Recommendations

Recommendation17: Maintain the existing field offices in the City of San Fernando and the Antelope Valley.

Appendices

Appendix A – Procedures Performed

Strategica, Inc. performed the following procedures in the conduct of this project:

- Conducted 13 interviews of DMEC managers and staff
- Updated process maps for investigations, forensic support, medical exams
- Obtained overtime and staffing stats
- Reviewed Grand Jury report on the DMEC and Auditor-Controller preliminary report on the DMEC Reporting Desk
- Obtained and reviewed background information such as the DMEC strategic plan, performance standards, NAME checklist, personnel listing, organization chart
- Obtained data extracts from the Toxicology database and CME. Total number of data points analyzed are 38,650 coroner cases and 117,266 toxicology test records.
- Uploaded data extracts and staffing data into an MS-Access database and performed analyses on turnaround times, backlogs, current performance levels, regression analysis. Noted variances between performance standards and actual performance.
- Conducted a workload distribution survey of investigators, physicians and toxicology lab staff
- Evaluated nexus between staffing levels, overtime spending and performance.
- Calculated potential staffing shortages using productivity ratios, overtime utilization, performance deficiency levels.
- Calculated the effect of distance on investigative turnaround times
- Evaluated the need for additional DMEC offices (in addition to existing offices in Lancaster and City of San Fernando)
- Evaluated process improvement opportunities for improving performance
- Provided the DMEC an opportunity to review and comment on the findings and recommendations
- Prepared a final report.

Appendix B – DMEC Response

Response to CEO on Staffing

Summary:

- We recommend adding:
  - Four bench criminalists to maintain the SEM, tool mark, and DNA labs, and one criminalist for method development.
  - Three investigators to account for specialized calls and training.
  - One pathologist for research and teaching.
- A new NAME accreditation requirement will be that the time between notification of a case and time the body is ready for release must be less than 72 hours in 90% of cases. This will make it impossible to maintain accreditation with current staffing. (.

Lab:

- The analysis suggests that we should have 15 criminalists to handle the toxicology case load, and one quality assurance/development person.

- We do not agree that the Quality Assurance and development functions can be handled by one person, and recommend a criminalist to handle the Quality Assurance responsibilities and a separate criminalist to handle the toxicology development functions.

  The laboratory needs a criminalist who is primarily focused on Quality Assurance responsibilities for the laboratory but could also perform toxicology casework as needed, AND another criminalist who is primarily focused on the R&D needs of the laboratory but can also perform toxicology casework as needed. To remain relevant the toxicology lab needs to be able to continually develop new methods to detect current illicit drugs on the street (designer drugs, synthetic opioids, bath salts, etc.), as well as all of the new prescription drugs the pharmaceutical companies develop every year. An effective laboratory also needs to continually review and improve their current methodology and evaluate, validate, and implement new instrumentation and technologies. One criminalist cannot reasonably or effectively perform both the QA and R&D functions for the laboratory.

- The audit recommends that four of the required 15 criminalists needed to handle the toxicology work load are not to be new hires, but rather come from re-assigning the two criminalists from our Scanning Electron Microscopy (SEM) Lab and the two criminalists from our DNA lab to the toxicology lab, effectively eliminating both of these vital forensic functions. Accreditation standards require at least two qualified criminalists in each discipline to provide the analysis and technical review.

- The audit is suggesting that our SEM lab could continue to provide blunt force trauma and sharp force trauma analysis, bullet wound evaluations, and Coroner gunshot residue testing as well as expert courtroom testimony for all of these tests, with part time criminalist help from the

toxicology lab. We disagree with this assessment. Bullet wound analysis and distance interpretation, and tool mark (blunt or sharp force trauma) analysis is very complicated requiring the use of equipment and techniques quite different from a toxicology lab. To suggest that a criminalist could be an expert toxicologist on Mondays and Wednesdays, and then an expert microscopistand tool mark analyst on Tuesdays and Thursdays is not practical or realistic.

- We should not postpone accreditation of the DNA lab. The County has a large investment in the DNA lab, and there will be additional expenditure of time and money if the reagents go out of date and the methods and/or equipment become obsolete.

  Human identification and Post Mortem Genetic testing are part of the core functions of the Department. Our DNA efforts will allow us to quickly identify John and Jane Does where we have a potential family member identified, to identify all body parts in a dismemberment case, an explosion, or a public transportation accident where many bodies and body parts need to be identified. Post mortem genetic testing in cases of suspected inherited cardiac conditions and other genetic mutation conditions will help in cause of death determinations. We have invested almost 2 million dollars in equipment, personnel, and training and are only a few months away from applying for accreditation for our DNA lab. We believe to "postpone validation" and "direct staffing towards toxicology" at this time would be a mistake. First of all it is always risky to shutdown sensitive sophisticated equipment for a year or more. You can't just flip the switch back on and expect everything to work properly. The criminalist who is our DNA Technical Lead was hired specifically for this function. He is the only criminalist in the laboratory who meets very specific education and experience requirements for the position. If we try to make him a toxicologist, at best he might work out, at worst, he leaves.

  We recommend the addition of 4 criminalists (in addition to the 4 criminalists already allocated by the CEO) so the Forensic Laboratory can provide timely, accurate, and effective forensic testing services in all of our accredited disciplines.

Investigations:

- The analysis suggests that 12 investigators and one lieutenant should be added to the current complement of 33 investigators (based on a standard turnaround time of 3.5 hours per case).

- Note that the graph "Days between arrive date and investigation approval date" gives mean values, not 90th percentile. While there is currently no NAME turnaround time requirement for investigations, upcoming requirements (see below) give turnaround time for 90% of cases to be complete.

The estimates of investigator time (3.5 hours per case) do not include other required activities:

- A SORT case (61 cases in 2016) may require 8 staff people for an entire day (estimate 3900 hours per year)
- Agency assists (30 per year; two investigators @ 2 hours = 120 hours) require in-person death notification of next of kin for people who died in other jurisdictions
- Cremains (72 in 2016 @ 1 hour = 72 hours) require a search for next of kin
- The Youthful Drunk Driver Visitation Program is a court-ordered class that takes place three times a week. Each class, led by an investigator, lasts four hours, for a total of 12 hours per week or 624 hours per year.

- Required training time (estimate 30 hours per investigator per year, or 1200 hours per year for 40 investigators), including hazardous materials, defensive driving, sexual harassment prevention, POST, teaching homicide school, rappelling, etc. Investigator trainees have a year-long training program.

These activities add up to an additional 5900 investigator hours (three FTEs) per year.

Forensic Medicine:

- The time to do autopsies and signouts does not include time taken for teaching and research. These activities are essential to maintain accreditation of the fellowship program, which is our main source of new staff members. We recommend adding an additional pathologist to account for these functions.

Upcoming NAME Standard:

- New NAME accreditation requirements (that will probably be passed at the NAME meeting this week) will require that 90% of cases be available for release within 72 hours of being reported.

- Dividing the 72 hours equally between transportation, investigations and medical, about 97% of cases will need to be completed within 24 hours at each step (97% times 97% times 97% = 91%).

- Data from Strategica show that about 15-20% of cases exceed 24 hours between the original call and the arrival of the body ("Transports % of cases exceeding 1 day DMEC standard").

- The mean time a case spends in Investigations is one day for field calls and 7 days for hospital cases ("Mean investigation turnaround time by investigation type (in days)"). About 14% of cases in Investigations are complete within 24 hours (data from computer).

- About 10-15% of cases exceed 2 days between approval of the investigation report and the completion of the exam ("Medical Exams % of cases exceeding 2 day DMEC standard"). About 79% of cases have a medical examination within 24 hours of the completion of investigation (data from computer).

- Conclusion: The Coroner will not be able to meet the new NAME requirement with existing staff.

Comment:

We did not include the 11,000 inquiries that are reviewed by the Department annually. As staff involvement may include clerical, investigators, supervising investigators and medical examiners either individually or collectively. This data will need additional review before providing an accurate time estimate. The reporting desk is staffed 24 hours a day, 365 days a year.

Appendix C – Strategica, Inc. Rebuttal to DMEC Response

DMEC Response to CEO	Strategica, Inc. Rebuttal
Summary:	
• We recommend adding: ○ Four bench criminalists to maintain the SEM, tool mark, and DNA labs, and one criminalist for method development.	County should research costs and benefits of the GSR, DNA and SEM labs and make policy decision before further investment.
○ Three investigators to account for specialized calls and training.	Our workload and staffing model incorporated time for specialized calls and training. The time needed for these functions is included in our staffing recommendations.
○ One pathologist for research and teaching.	Not core functions of the DMEC.
• A new NAME accreditation requirement will be that the time between notification of a case and time the body is ready for release must be less than 72 hours in 90% of cases. This will make it impossible to maintain accreditation with current staffing.	We agree. Our staffing and workflow improvement recommendations incorporate this new NAME standard. In addition, the new standard is that the autopsy or medical exam must be performed within 72 hours, not when the body is ready for release.
Lab:	
• The analysis suggests that we should have 15 criminalists to handle the toxicology case load, and one quality assurance/development person.	We are recommending 17 criminalists for the toxicology lab.
We do not agree that the Quality Assurance and development functions can be handled by one person, and recommend a criminalist to handle the Quality	Our staffing recommendation includes a criminalist to cover this function as well as handle peak load testing

Assurance responsibilities and a separate criminalist to handle the toxicology development functions.	workload.
• The laboratory needs a criminalist who is primarily focused on Quality Assurance responsibilities for the laboratory but could also perform toxicology casework as needed, AND another criminalist who is primarily focused on the R&D needs of the laboratory but can also perform toxicology casework as needed. To remain relevant the toxicology lab needs to be able to continually develop new methods to detect current illicit drugs on the street (designer drugs, synthetic opioids, bath salts, etc.), as well as all of the new prescription drugs the pharmaceutical companies develop every year. An effective laboratory also needs to continually review and improve their current methodology and evaluate, validate, and implement new instrumentation and technologies. One criminalist cannot reasonably or effectively perform both the QA and R&D functions for the laboratory.	These functions are incorporated into our recommendation for 17 toxicology criminalists. Our staffing model suggested 13 criminalists to cover average toxicology testing workload with an additional 4 criminalists to handle peak workloads and Q&A and research functions.
• The audit recommends that four of the required 15 criminalists needed to handle the toxicology work load are not to be new hires, but rather come from re-assigning the two criminalists from our Scanning Electron Microscopy (SEM) Lab and the two criminalists from our DNA lab to the toxicology lab, effectively eliminating both of these vital forensic functions. Accreditation standards require at least two qualified criminalists in each discipline to provide the analysis and technical review.	County should research costs and benefits of the GSR, DNA and SEM labs and make policy decision before further investment.
• The audit is suggesting that our SEM lab could continue to provide blunt force trauma and sharp force trauma analysis, bullet wound evaluations, and Coroner gunshot residue testing as well as expert courtroom testimony for all of these tests, with part time criminalist help from the toxicology lab. We disagree with this assessment. Bullet wound analysis and distance interpretation, and tool mark (blunt or sharp force trauma) analysis is very complicated requiring the use of	County should research costs and benefits of the GSR, DNA and SEM labs and make policy decision before further investment.

equipment and techniques quite different from a toxicology lab. To suggest that a criminalist could be an expert toxicologist on Mondays and Wednesdays, and then an expert microscopist and tool mark analyst on Tuesdays and Thursdays is not practical or realistic.	
• We should not postpone accreditation of the DNA lab. The County has a large investment in the DNA lab, and there will be additional expenditure of time and money if the reagents go out of date and the methods and/or equipment become obsolete. Human identification and Post Mortem Genetic testing are part of the core functions of the Department. Our DNA efforts will allow us to quickly identify John and Jane Does where we have a potential family member identified, to identify all body parts in a dismemberment case, an explosion, or a public transportation accident where many bodies and body parts need to be identified. Post mortem genetic testing in cases of suspected inherited cardiac conditions and other genetic mutation conditions will help in cause of death determinations. We have invested almost 2 million dollars in equipment, personnel, and training and are only a few months away from applying for accreditation for our DNA lab. We believe to "postpone validation" and "direct staffing towards toxicology" at this time would be a mistake. First of all it is always risky to shutdown sensitive sophisticated equipment for a year or more. You can't just flip the switch back on and expect everything to work properly. The criminalist who is our DNA Technical Lead was hired specifically for this function. He is the only criminalist in the laboratory who meets very specific education and experience requirements for the position. If we try to make him a toxicologist, at best he might work out, at worst, he leaves. • We recommend the addition of 4 criminalists (in addition to the 4 criminalists already allocated by the CEO) so the Forensic Laboratory can provide timely, accurate, and effective forensic testing services in all of our accredited disciplines.	County should research costs and benefits of the GSR, DNA and SEM labs and make policy decision before further investment.

Investigations:	
• The analysis suggests that 12 investigators and one lieutenant should be added to the current complement of 33 investigators (based on a standard turnaround time of 3.5 hours per case).	We are recommending 13 investigators and one lieutenant.
• Note that the graph "Days between arrive date and investigation approval date" gives mean values, not 90th percentile. While there is currently no NAME turnaround time requirement for investigations, upcoming requirements (see below) give turnaround time for 90% of cases to be complete.	We based this graph on the DMEC adopted standard for completing investigations. The new NAME standard covers additional functions such as medical exams and transport in addition to investigation.
The estimates of investigator time (3.5 hours per case) do not include other required activities: • A SORT case (61 cases in 2016) may require 8 staff people for an entire day (estimate 3900 hours per year) • Agency assists (30 per year; two investigators @ 2 hours = 120 hours) require in-person death notification of next of kin for people who died in other jurisdictions • Cremains (72 in 2016 @ 1 hour = 72 hours) require a search for next of kin • The Youthful Drunk Driver Visitation Program is a court-ordered class that takes place three times a week. Each class, led by an investigator, lasts four hours, for a total of 12 hours per week or 624 hours per year. • Required training time (estimate 30 hours per investigator per year, or 1200 hours per year for 40 investigators), including hazardous materials, defensive driving, sexual harassment prevention, POST, teaching homicide school, rappelling, etc. Investigator trainees have a year-long training program. These activities add up to an additional 5900 investigator hours (three FTEs) per year.	The 3.5 hours is the estimate for hospital cases only. The estimate for field cases is 5.33 hours. In addition, staffing requirements were grossed up to account for all other investigatory functions such as training, notifications, identification, court time, etc.

Forensic Medicine:	
• The time to do autopsies and signouts does not include time taken for teaching and research. These activities are essential to maintain accreditation of the fellowship program, which is our main source of new staff members. We recommend adding an additional pathologist to account for these functions.	The forensic medicine staff is currently meeting the DMEC standard of performing an autopsy within 48 hours of arrival of the body. Therefore, we deemed that there was no need for additional physicians. In addition, teaching and research are not core functions.
Upcoming NAME Standard:	
• New NAME accreditation requirements (that will probably be passed at the NAME meeting this week) will require that 90% of cases be available for release within 72 hours of being reported.	The actual new NAME standard reads: "Are 90% of autopsies and external examinations performed within 72 hours from the time that medical examiner jurisdiction is accepted or coroner's authorization is granted, or within 72 hours of receipt of the decedent if an externally referred autopsy?" The terminal event is autopsy or external examination completed, not the body being available for release although the two events usually coincide.
• Dividing the 72 hours equally between transportation, investigations and medical, about 97% of cases will need to be completed within 24 hours at each step (97% times 97% times 97% = 91%).	In many, if not most, cases a body can be autopsied or examined upon arrival and before the investigation report is completed. So the three functions can be performed in a parallel fashion (once the transport is completed) rather than in a sequential fashion.
• Data from Strategica show that about 15-20% of cases exceed 24 hours between the original call and the arrival of the body ("Transports % of cases exceeding 1 day DMEC standard"). • The mean time a case spends in Investigations is one day for field calls and 7 days for hospital cases ("Mean investigation turnaround time by investigation type (in days)"). About 14% of cases in Investigations are complete within 24 hours (data from computer).	Additional investigators (per our recommendation) should reduce the turnaround time for hospital calls to one day from the current 7 days.

• About 10-15% of cases exceed 2 days between approval of the investigation report and the completion of the exam ("Medical Exams % of cases exceeding 2 day DMEC standard"). About 79% of cases have a medical examination within 24 hours of the completion of investigation (data from computer).	
• Conclusion: The Coroner will not be able to meet the new NAME requirement with existing staff.	We agree. Additional investigations staff and recommended workflow improvements should reduce the turnaround to meet the new NAME standard.
Comment:	
We did not include the 11,000 inquiries that are reviewed by the Department annually. As staff involvement may include clerical, investigators, supervising investigators and medical examiners either individually or collectively. This data will need additional review before providing an accurate time estimate. The reporting desk is staffed 24 hours a day, 365 days a year.	We could not evaluate the staffing for the reporting desk as the necessary data was not recorded. We recommend that the DMEC install an automatic call distributor and revisit reporting desk staffing after six months of recording call data. It should be mentioned that most of the 11,000 inquiries are handled in a matter of minutes and do not materially impinge on physician or investigator staffing.

Appendix D – Civil Grand Jury Report

See following pages.

WHO CARES FOR THE DEAD WHEN THE DEAD DON'T VOTE?
An Interim Report (IR) by the
2015-2016 Los Angeles County Civil Grand Jury

I. EXECUTIVE SUMMARY

The citizens of Los Angeles County expect that their dead will be treated with dignity and respect. The Department of the Medical Examiner-Coroner (DMEC) and the Office of Decedent Affairs (ODA) in the Department of Health Services (DHS) provide services to transport, examine, and cremate or bury the county's dead, depending on the circumstances surrounding a particular death.

The 2015-2016 Civil Grand Jury (CGJ) considered in detail whether these services are provided promptly, efficiently, and according to the expectations of citizens. This report examines the present workings of these two offices. It principally finds that DMEC is significantly understaffed in both coroner investigator and laboratory positions, has a sobering backlog in toxicology testing, and that if these issues are not addressed DMEC's accreditation may likely be withdrawn during 2016.[1] Loss of accreditation may subject Los Angeles County and DMEC to attacks on their credibility in criminal cases.

The Board of Supervisors (BOS) has provided inadequate resources to support the stated significant needs of DMEC prompting the current Medical Examiner-Coroner to submit his resignation on March 11, 2016.[2] For reasons explained below,[3] the CGJ is very concerned that the leadership position in DMEC may be vacant for some time to come.

The CGJ also considered whether the lack of unification of all decedent services impedes quality investigation and consistent service for the people of Los Angeles County. The CGJ believes that having separate offices in two departments unnecessarily separates county-provided services to the dead and for their survivors. A merger of the two offices to provide a single point of contact for citizens could benefit county residents, but should not be considered until after DMEC is sufficiently staffed to meet its statutorily-mandated mission.

[1] The National Association of Medical Examiners (NAME) awarded a five-year re-accreditation to DMEC effective August 2011, through August 2016. DMEC is also due in 2016 for re-accreditation by the Institute of Medical Quality/California Medical Association (IMQ/CMA) and for a yearly site visit by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB).
[2] All references in this report to the Medical Examiner-Coroner refer to Dr. Mark Farjado who is scheduled to leave that office on April 15, 2016.
[3] See pages 10-11.

A. The Medical Examiner-Coroner

The Los Angeles County DMEC is tasked to investigate and determine the circumstances, manner and cause of all violent and unusual deaths occurring in the county, including those where the decedent has not seen a medical doctor within 20 days of death. It responds to scenes of death regardless of time or location and uses investigators, forensic pathologists, laboratory technicians and toxicologists to conduct its investigations. The net county cost of the DMEC budget for FY 2015-2016 was estimated to be $35.5 million, or 0.13% of the adopted Los Angeles County budget of $27.1 billion.

Staffing affects the timing of autopsies and other investigative work and also the resultant reliability of DMEC's findings. The National Association of Medical Examiners (NAME), the certifying medical board for forensic medicine, has set a minimum acceptable standard of 90 days for completion of a coroner's work on each case. DMEC now routinely exceeds that limit. Simply put, if its problems are not rectified, the department is likely to lose its accreditation and may not be even provisionally accredited after it is reviewed in August 2016.

What problems currently exist at DMEC can be attributed to too few budgeted positions, including direct and indirect support personnel, worker fatigue and burnout, and to salary constraints that inhibit recruitment and retention of qualified professionals. Additional pressure is added to this stressful environment by BOS requests averaging 16 times per month for immediate processing of selected cases, which negatively impacts DMEC internal prioritization of investigations.

In response to the ongoing numerous vacancies in the DMEC Forensic Toxicology unit and the backlog specifically in blood alcohol testing, the Los Angeles County Chief Executive Officer (CEO) directed the Medical Examiner to redeploy staff who hold licenses to do blood alcohol testing to the toxicology laboratory. Unfortunately, even if this directive is successful in dealing with this particular backlog it will create new backlogs in other areas from which the newly reassigned testers were taken.

More troubling, the lack of staffing in that unit has caused DMEC to suspend a number of operations, including Gunshot Residue and Scanning Electron Microscopy (GSR/SEM) and Law Enforcement/Officer Involved Shooting (LER/OIS) case review. Further, physicians have deferred toxicology testing and are using less definitive and more elementary procedures.[4]

In addition, DMEC has no cushion to absorb extra work generated by catastrophes and extended staff leaves of absence, for example maternity leave, bereavement, illness, etc.

[4] The CGJ is informed, for example, that physicians are using urine dip-sticks rather than running toxicology tests.

The CGJ believes the budgeted numbers of investigators, forensic pathologists, and toxicologists need to be increased immediately by BOS to improve the provision of services by DMEC.

DMEC operates from a central location in downtown Los Angeles and three small satellite offices in the Antelope Valley, Lomita, and San Fernando. The vast size and constant congestion of Los Angeles County require the coroner staff to travel 30 to 90 minutes, and sometimes up to three hours, to investigate a scene of death and remove bodies.[5] A body cannot be moved from an accident or crime scene until the coroner arrives or gives permission. The CGJ believes a second facility for processing bodies would be beneficial and should be located somewhere in the west San Fernando Valley.

B. The Office of Decedent Affairs

ODA is a small unit in DHS and has a total budget of under $400,000, compared to the total DHS budget of about $7 billion. The three functions of ODA employees are to operate the county morgue at the LAC+USC Medical Center, the county crematory, and the county cemetery. ODA performs a function that is remote from the core mission of DHS, operating at a distance of three managerial levels from even the administration of the hospital.

Although Los Angeles County operates the crematory for the purpose of cremating its indigent dead, DMEC must contract with private crematories to process its unclaimed bodies. The CGJ questions whether continued operation of the county crematory is an effective use of resources.

C. The Proposed Consolidation

At least as far back as 2009 there have been serious discussions involving BOS, CEO, DMEC, and DHS regarding the transfer of the functions of ODA to DMEC. In the spring of 2015 DMEC and DHS were each asked to provide budget estimates relating to such a consolidation. The estimates, based on separate assumptions, were miles apart and the talks stalled.[6] All parties involved appear to support a merger of these functions at some point in the future.

The CGJ agrees that decedent services should eventually be consolidated in one county department, DMEC, but cautions that such consolidation should not take place until DMEC first receives appropriate additional personnel positions to be functional in its core mission. The consolidation, further, must include new positions dedicated to support the new responsibilities in order to assure that the State's statutory mandates are met by DMEC.

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[5] Laura J. Nelson, "Los Angeles Area Can Claim the Worst Traffic in America. Again." Los Angeles Times, March 15, 2016. http://www.latimes.com/local/lanow/la-me-ln-la-worst-traffic-20160314-story.html

[6] DHS requested $400,000 to fulfill its function assuming no changes in personnel or other resources. DMEC requested $2.3 million for 27 additional positions, including 12 investigators, and 2 vans. The DMEC request assumed that the medical examiner would be given the proper resources to apply its statutorily-mandated "identify and notify" procedure, utilizing all resources – local, state, federal, and international – to identify each case originating from the morgue, a procedure now followed on each case opened by DMEC.

II. RECOMMENDATIONS

IR2.1 Los Angeles County and DMEC, within the next 90 days, should initiate a study to identify and correct barriers to recruitment and retention of board certified professionals with respect to budgeted but unfilled positions at DMEC, including, among others, forensic pathologists, investigators, and toxicologists.

IR2.2 Los Angeles County and DMEC should increase staffing at DMEC immediately in order to reduce the risk of error, the need for high amounts of overtime, employee redeployment in cases of rapidly growing backlogs, and employee burnout. Evidence that Los Angeles County is providing additional resources to the department might allow DMEC to keep its accreditation, currently in great jeopardy, on a provisional basis. Specifically, staffing should be increased by:

IR2.2(a) 12 full time investigators,

IR2.2(b) 2 full time forensic pathologists, and

IR2.2(c) 7 full time toxicologists.

IR2.3 Los Angeles County and DMEC should, beyond the positions required by recommendation IR2.2, further increase staffing at DMEC in order to achieve median staffing levels per millions of population strongly recommended by NAME. Specifically, staffing should be increased by:

IR2.3(a) 1 full time investigator,

IR2.3(b) 7 full time forensic pathologists, and

IR2.3(c) 15 full time toxicologists.

IR2.4 Los Angeles County and DMEC should increase compensation, by means perhaps of starting such employees at higher steps on the county's pay scale, and other incentives, in order to effectively recruit and retain these specialized individuals.

IR2.5 Los Angeles County and DMEC should, within the next fiscal year, establish in the West Valley area a facility comparable and redundant to the medical examiner's sole facility.

IR2.6 Should Los Angeles county continue operation of its crematory, Los Angeles County and DHS should replace the crematory retorts (furnaces), including necessary upgrading of plumbing, electrical, and HVAC systems. The

crematory floor needs to be replaced. Other structural issues also may need to be addressed.

IR2.7 Los Angeles County should not move the indigent-related functions of ODA from DHS to DMEC until the 21 additional personnel needed by DMEC to be basically functional in its mission, recommended previously in IR2.2, are provided. The CGJ recommends that if, or when, the consolidation goes forward it include additional staff for DMEC, along with other appropriate support, necessary for the work to be properly performed by DMEC, according to the laws of California, on behalf of the people of Los Angeles County. Specifically, staffing should be increased by:

IR2.7(a) 6 full time investigators,

IR2.7(b) 5 full time transport workers, and

IR2.7(c) 2 full time clerks.

III. BACKGROUND

The CGJ investigated all Los Angeles County functions dealing with the dead, including the medical examiner's office and decedent services provided by DHS. The CGJ is aware there have long been discussions about consolidating these two offices so that just one entity would process the dead for whom Los Angeles County is responsible.

A. The Department Of The Medical Examiner-Coroner

The office of the Los Angeles DMEC is statutorily charged with investigating "all violent, sudden, or unusual deaths within the County."[7] The Medical Examiner-Coroner informed the CGJ that in one out of three deaths in the county DMEC is called to the scene. Of the 60,000 – 80,000 deaths each year in Los Angeles County approximately 20,000 – 25,000 are reported to DMEC. The department accepts jurisdiction in about 10,000 of those and actually brings in 8,000 – 9,000 bodies for closer examination. The department operates 24 hours per day, seven days per week.

The staff of DMEC conducts its work in the largest metropolitan area in the United States and is exceptionally well trained. The large, diverse population in our county produces post mortem investigations across a broad spectrum of complexity and manner of death. Each year forensic pathologists, investigators, toxicologists, and other criminalists conduct myriad independent, objective medicolegal investigations in the public interest.[8]

DMEC determines facts to assist in court cases and also to contribute knowledge in the areas of occupational disease, epidemic disease, and industrial accidents. Such investigations additionally aid the public health purposes of revealing unsuspected contagious disease and preventable hazards to health.[9]

More than 50 years ago, forensic pathologists in the Los Angeles DMEC pioneered the practice of psychological autopsy, which has aided policy development in suicide prevention.[10] Toxicologists in DMEC also have identified testing methods for new designer drugs while conducting post mortem analyses, although current severe staff shortages have eliminated DMEC's ability to do this.

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[7] Cal.Govt.Code § 27491. See Appendix for text. Other types of deaths not listed in the statute but also reportable are all deaths in which injury or accident, regardless of how remote in time or place, is a contributing cause of death. http://mec.lacounty.gov/wps/portal/mec/ourservices/forhospitals.

[8] "The medicolegal autopsy is conducted with the possibility of litigation in mind. The autopsy is designed to determine the cause of death, properly document findings, and collect evidence. A primary objective is to try to reconstruct the circumstances and events that led to the death so that a manner (natural, accident, suicide, homicide, or undetermined) can be established. . . . It is imperative that findings be recorded clearly and objectively. Any forensic pathologist should be able to interpret the findings years later without difficultly." DME Manual, County of Los Angeles, Department of the Medical Examiner-Coroner (August 2014), p. 8.

[9] Ibid.

[10] Drs. T. Botello, T. Noguchi, L. Sathyavagiswaran, L. Weinberger, and B. Gross, "Evolution of the Psychological Autopsy: Fifty Years of Experience at the Los Angeles County Chief Medical Examiner-Coroner's Office," Journal of Forensics, Volume 58, Issue 4 (March 2013), pp. 924-926. http://onlinelibrary.wiley.com/wol1/doi/10.1111/1556-4029.12138/full

1. The DMEC Workload

With more than 10 million residents, Los Angeles County is the most populous county in the nation. It covers 4,752 square miles and, significantly, is congested with nearly 8 million registered vehicles.[11]

DMEC's sole facility is located in downtown Los Angeles, although there are three satellite facilities out of which a handful of investigators operate.[12] No one is allowed to touch or move a body at an accident or crime scene unless the Coroner gives them permission to do so or until a Coroner's Investigator arrives.[13] The CGJ has been informed that the average time for an investigator to travel through traffic from the downtown headquarters to a death scene in most areas of the county is usually 30 to 90 minutes and sometimes nearly three hours. Thus, distance and population density both affect the effective conduct of DMEC's work.

DMEC processes about 9,000 – 10,000 bodies and performs about 4,000 autopsies per year. While its workload is comparable to that of the medical examiner offices in New York City (all boroughs are organized under one medical examiner) and Cook County (Chicago), which report performing more than 5,000 and about 3,700 autopsies per year, respectively, those other jurisdictions are physically smaller, serve smaller populations, and employ more critical staff per capita than DMEC.

[11] California Department of Motor Vehicles Forecasting Unit: total for 2014 was 7,719,360. https://www.dmv.ca.gov/portal/wcm/connect/add5eb07-c676-40b4-98b5-8011b059260a/est_fees_pd_by_county.pdf?MOD=AJPERES

[12] Two investigators are assigned to a small office in Lancaster, CA, four investigators are assigned to office space in Lomita, CA, and two investigators are assigned to an office in the San Fernando Police Department. In Lancaster there is a small office and non-working refrigerated space that could accommodate six bodies. In some cases, because of lack personnel, DMEC must depend on a local funeral company to transport bodies from Antelope Valley to the Los Angeles office, the only location in the county where autopsies are performed. Neither the Lomita nor the San Fernando offices contain anything other than desks for the investigators who work there. These regional offices allow DMEC to more rapidly respond to a scene of death which mitigates traffic obstructions.

[13] Cal.Govt.Code § 27491.2 (b) "For purposes of inquiry, the body of one who is known to be dead from any of the causes or under any of the circumstances described in Section 27491 shall not be disturbed or moved from the position or place of death without permission of the coroner or the coroner's appointed deputy. Any violation of this subdivision is a misdemeanor."

Table 1: Population Served Per Critical Staff Member

	Population served per Forensic Pathologist	Population served per Coroner Investigator*	Population served per Toxicologist	Total Population Served	Area Served in Square Miles
Los Angeles	434,700	222,200	769,200	10,000,000	4,752
New York (5 Boroughs)	242,800	293,100	386,400	8,500,000	303
Cook County (Chicago)	385,700	337,500	385,700	5,400,000	945

*Put another way, each of the 46 investigators in Los Angeles County can be said to "cover" 103 square miles, while 29 investigators in New York each cover 10.5 square miles and 16 investigators in Cook County each cover 59 square miles.

The Medical Examiner-Coroner informed the CGJ that DMEC, despite severe understaffing, is committed to provide a 48-hour turnaround time with regard to preliminary results in cases in which it accepts jurisdiction.

2. The Investigation and Examination Process

According to the standard of care applied by medical examiners across the country autopsies are completed within 48 hours of death. ***The forensic pathologist cannot begin an autopsy or even an external examination, however, until the investigator completes a report detailing the scene at which a body is found, including personal effects gathered there.***

In each case determined to be within the jurisdiction of DMEC, the deceased is taken to DMEC's facility and examined by a deputy medical examiner to determine the cause and manner of death. That physician assesses whether an autopsy and/or laboratory tests are required as part of the investigation. At its present rate DMEC takes on average much longer than 90 days to complete final autopsy reports, the minimum standard for completion required by NAME for full accreditation of a forensic death investigation facility. This substantial period of time can be attributed to a lack of sufficient staff, including professional and direct and indirect support personnel.

During an autopsy the decedent's body is examined for external wounds. A detailed internal examination is conducted during which organs are examined and weighed. Bodily fluids are collected. Tissue samples are taken and retained to determine if there

is a presence of drugs, poison, and/or disease(s) and to preserve DNA. Forensic pathologists work closely with law enforcement but conduct their investigations independently to reach scientific conclusions as to cause of death.

Moreover, toxicology samples are very time and temperature sensitive. A body lying on ninety (90) degree asphalt will begin to decompose within an hour. Samples retrieved more than two weeks after death likewise will have degraded and therefore may not be optimally reliable.[14] The DMEC toxicology lab currently requires ***six or seven months*** to analyze samples taken in routine autopsies,[15] jeopardizing accreditation of the entire facility. The Forensic Laboratory standards, which are international standards of analysis, are higher now than were expected even five years ago. They are much more time consuming and labor intensive than previous standards.

DMEC continues to have on average more than 400 bodies stored in its crypt and is incapable of meeting, in the vast majority of its cases, the minimum acceptable standard autopsy report completion time of 90 days. Some 160 bodies await external examination and/or autopsy, and more than 250 additional bodies are stored for further testing (about 10 percent of the number), to be identified (delayed because there are not enough coroner investigators to do the statutorily-required work), or have been abandoned by survivors and therefore are left for final disposition by Los Angeles County.

3. Accreditation

DMEC has maintained its accreditation -- a measure of acceptable standards in management, personnel, operations, procedures, instruments, physical site, and safety -- although it currently is so far behind the minimum standards that losing accreditation is a likelihood in 2016.[16] Such accreditation has been attained by only 82 medical examiner or coroner offices, including DMEC, out of the more than 2,000 counties across the nation. Los Angeles County DMEC worked hard to attain this elite status among peer facilities.

The volume of cases for which DMEC is responsible overwhelms a staff that is significantly smaller than recommended in standards set by NAME. The budget provided to DMEC also has been flat in the past two fiscal years and the CEO's recent proposed budget reduces the level of funding for FY 2016-2017.

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[14] "Factors such as delay in autopsy, sampling technique, and specimen preservation contribute more to inaccuracies associated with toxicological testing than do the testing procedures themselves, but procuring and storing toxicology specimens under optimal conditions mitigate these factors." Dr. G. G. Davis and the National Association of Medical Examiners and American College of Medical toxicology Expert Panel on Evaluating and Reporting Opioid Deaths, "National Association of Medical Examiners Position Paper: Recommendations for the Investigation, Diagnosis, and Certification of Deaths Related to Opioid Drugs," (March 2013), p. 77. https://netforum.avectra.com/public/temp/ClientImages/NAME/a8f3230e-d063-4681-8678-e3d15ce9effb.pdf

[15] Interview with DMEC staff.

[16] The minimum standard is that 90 percent of toxicology tests will be completed in 90 days. NAME, "Inspection and Accreditation Checklist for Autopsy Services, Adopted February 2013," p. 16. https://netforum.avectra.com/public/temp/ClientImages/NAME/c43b8bca-ad7b-4a40-990b-7f45283a66ab.pdf

Table 2: DMEC Budget

	FY 2012-2013	FY 2013-2014	FY 2014-2015	FY 2015-2016	CEO Proposed FY 2016-2017
Net County Cost	$31,704,000	$31,789,000	$35,656,000(a)	$35,515,000	$33,583,000
Budgeted Positions	216	217	244(b)	227	227

(a) The majority of the $3.8 million increase over the 2013-2014 budgeted amount reflects the county-wide salary and benefit increases as a result of a Memoranda of Understanding (MOU) and one-time miscellaneous equipment funding.

(b) The 27 additional positions over the 2013-2014 budgeted numbers reflect 20 volunteer (non-paid) positions (added in error to the 2014-2015 Adopted Budget ordinance), six positions added at the time of Chief Medical Examiner-Coroner's appointment, and one position added in exchange of reduced expense funds.

Critical staff and the challenges in recruiting and retaining them include:

- *Forensic Pathologists:* At present there are only about 500 - 600 board-certified forensic pathologists in the United States,[17] although NAME estimates, significantly, a need for double that number.[18]

  In 2015 just 43 doctors passed the examination to become board certified forensic pathologists.[19] Each year there are 15,000 new medical students, but only 37 of the 131 medical schools provide accredited training programs in forensic pathology. On average, just 47 medical students from all schools go on to become forensic pathology residents.[20] Los Angeles County each year offers two residency positions in DMEC but cannot always fill both. The starting salary for forensic pathologists in Los Angeles County was recently set by the CEO. "All new employees would start at an annual salary of $187,728 unless they had outside experience and then they would start at a higher step commensurate with their experience."[21]

[17] "Between 2007 and 2013, a total of 290 people were trained in forensic pathology, an annual average of 41 per year. . . . Considering an annual creation rate of 21 FPs per year [who attain board certification], and given the current work force of 500 FPs, it would take approximately 25 years to create enough FPs to serve the current U.S. population, assuming no population growth during that time. Compounding this issue, the FP workforce is annually decreasing due to attrition from retirement, death, and other factors, including job dissatisfaction because of the stressful nature of political, legal, and media encounters; poor working conditions; the nature of the work, and/or low salaries." National Institute of Standards and Technology, National Commission on Forensic Science, "Increasing the Number, Retention, and Quality of Board-Certified Forensic Pathologists," p. 3. http://www.justice.gov/ncfs/file/641646/download

[18] Ibid.

[19] Denise McNally, Executive Director of NAME, telephone interview February 2, 2016.

[20] Scientific Working Group on Medicolegal Death Investigation (SWGMDI), "Increasing Forensic Supply of Forensic Pathologists in the United States," (December 5, 2012), p. 2. http://www.swgmdi.org/images/si4.fpsupplyreportpublisheddecember2012.pdf
National Institute of Justice, Forensic Death Investigation Symposium, June 7-9, 2010, National Academy of Sciences Report, p. 5. https://www.ncjrs.gov/pdffiles1/nij/249252.pdf

[21] Email from Senior Manager, Benefits and Compensation Policy, Los Angeles County Chief Executive Office, March 17, 2016.

As a result of this dearth of practicing forensic pathologists it is difficult to fill pathologist positions as senior physicians resign or retire. Los Angeles County employs 23 forensic pathologists. The Medical Examiner-Coroner just resigned and there is a critical need for two additional doctors.

NAME statistics suggest a median staffing level of 3.2 forensic pathologists per million of population,[22] translating into a staffing level of 32 forensic pathologists at DMEC.

- *Coroner investigators* are sworn law enforcement officers who lead the crime scene investigation and coordinate all evidence collection at the scene of a death. The investigator takes charge of physical evidence, including the personal belongings and evidentiary samples taken from the deceased, making sure that it is properly cataloged and handled. He or she helps to move the body and may be in attendance at the autopsy as well. Coroner investigators are also involved in disposition or release of the body once DMEC's investigation has been concluded.

  DMEC has 46 budgeted investigator positions for a total caseload of about 10,000 incidents per year, which does not include the 10,000 - 15,000 additional cases in which a coroner investigator is called to a scene of death but determines there to be no jurisdiction for DMEC. There are four vacancies, including Chief of Coroner Investigations, at this time. Investigations inevitably lag behind the steady flow of cases for which DMEC is statutorily responsible and autopsies are delayed, producing stress and heartache in survivors.

  NAME statistics suggest a median staffing level of 5.9 investigators per million of population,[23] translating into a staffing level of 59 investigators at DMEC.

- *Criminalists/forensic toxicologists* are extremely critical to DMEC's operation. They examine tissues, bodily fluids, and blood to determine the cause and manner of death, and frequently provide expert testimony in court proceedings, which requires these staff to be specifically board certified, for example, in opioids, alcohol or some other area. These positions are highly specialized and require several years of experience and training.

  The American Board of Toxicology requires the following criteria for certification: a doctorate and at least three years full time experience in toxicology; a master's degree and at least seven years full time experience in toxicology; or a bachelor's degree and at least ten years full time experience in toxicology. All the degrees must be in a life or chemical science.

[22] Drs. M. Weinberg, V. Weedn, S. Weinberg, and D. Fowler, "Characteristics of Medical Examiner/Coroner Offices Accredited by the National Association of Medical Examiners," Journal of Forensic Sciences, Vol. 58, No. 5 (September 2013), p. 1196.
[23] Ibid.

BOS has budgeted 13 forensic toxicology positions for DMEC. NAME-suggested levels, however, suggest a staff significantly larger. There are six vacancies in the unit, including Chief of Forensic Laboratories, two supervising criminalists, and three senior criminalists. Four additional positions are held by employees on leave so that currently only three toxicologists are handling an overwhelming workload. The inability to fill even the budgeted positions is based largely on the failure of Los Angeles County to offer competitive salaries for the severe workload involved in these positions.

NAME statistics suggest a median staffing level of 3.5 toxicologists per million of population,[24] translating into a staffing level of 35 toxicologists at DMEC.

DMEC is understaffed in forensic pathology, investigator, and criminalist (laboratory) positions, due in part to difficulties recruiting and retaining staff in all of these professional areas in a hyper-competitive market. It is that much more difficult to recruit and retain these specialized personnel in Los Angeles County where the cost of living is very high[25] and DMEC has not been able to offer salaries high enough to compete with other locations.

[24] Ibid.
[25] Experian Data Quality, "The Cost of Living in America," https://www.edq.com/data-quality-infographics/cost-of-living-in-america/

Table 3: Starting Salaries Offered
For Forensic Pathologists in Selected Jurisdictions[26]

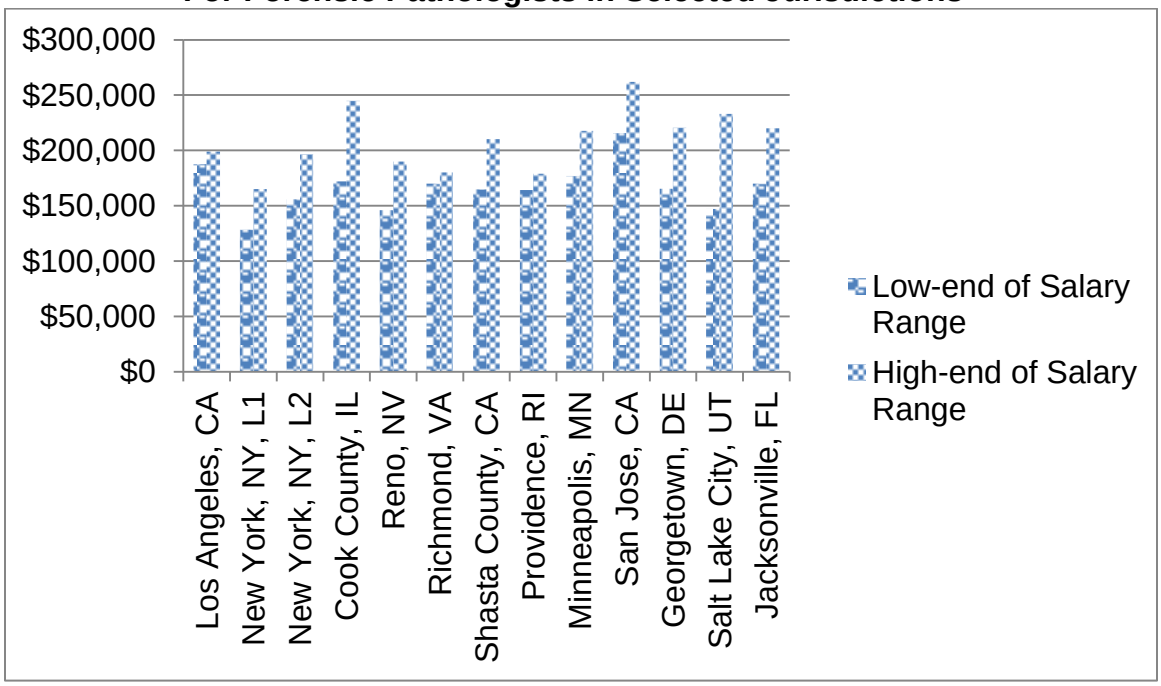
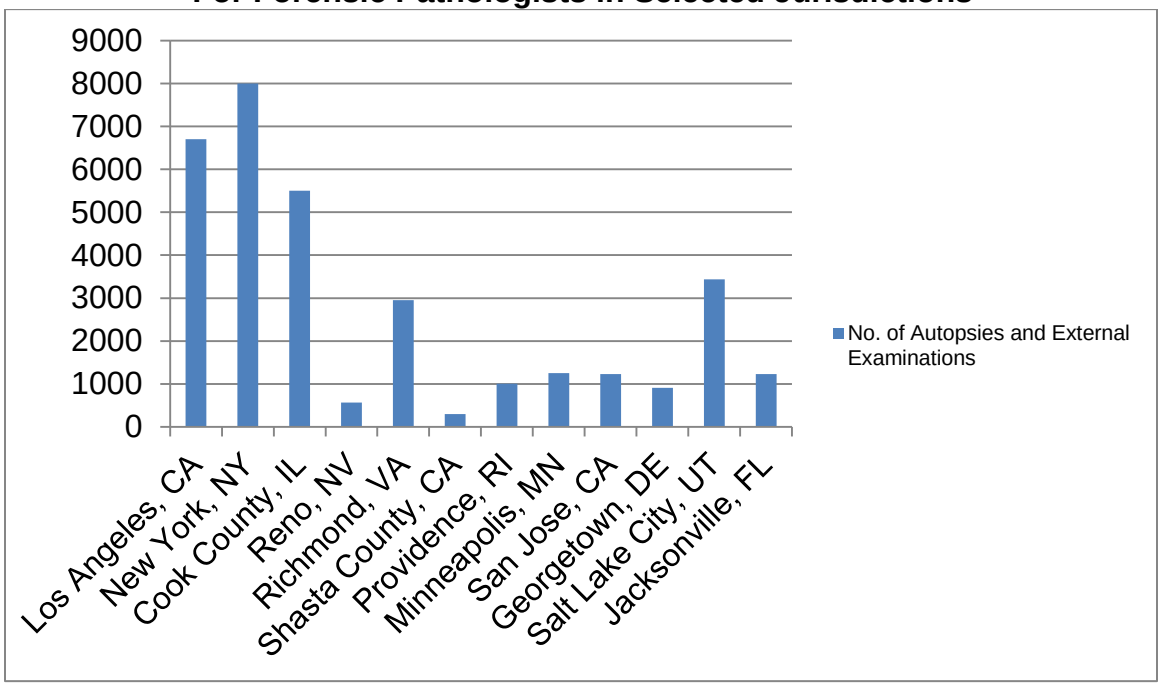


Table 4: Workload (Number of Autopsies and External Examinations)
For Forensic Pathologists in Selected Jurisdictions



[26] Salaries listed were available as job offerings on-line as of March 7, 2016. New York provided information for two subcategories of "city medical examiners," level I and level II.

B. Office Of Decedent Affairs

The Office of Decedent Affairs (ODA) is a division of the Department of Health Services (DHS) with headquarters located at the LAC+USC Medical Center. It comprises the morgue, the crematory, and the county cemetery.

ODA performs a function that is remote from the core mission of the hospital, operating at a distance of three managerial levels from the administration of the hospital (which, in turn, reports to the Director of DHS). Its problems are frequently overlooked. For example the county crematory is barely able to process the remains of the county's indigent. The CGJ investigation found a disturbing backlog of about 250 bodies stored in "temporary" refrigerated trailers at the county morgue on the LAC+USC Medical Center campus. When our concerns were noted on February 17, 2016, the problem was rectified in fewer than two weeks and no backlog currently exists. A new policy was immediately put in place to keep such a backlog from ever occurring again. The ODA's remote existence as part of DHS, however, does not add to its oversight and effective provision of services.

1. The County Morgue

The morgue processes all deaths that occur in LAC+USC Medical Center. Indigent veterans, about three percent of Los Angeles County's unclaimed indigent decedents, are processed by DMEC; individuals who die in the Medical Center after being injured during the commission of a crime and treated at LAC+USC Medical Center are also processed there.[27] The morgue also receives unclaimed, indigent decedents from other county medical facilities as well as private convalescent care facilities. The bodies are retrieved by morgue transport staff.

The morgue employs one administrative staff member who attempts to contact family members to claim bodies for transfer to private mortuaries. Individual remains unclaimed after thirty days are cremated at the county crematory at county expense.

Discussions with morgue staff made clear that their objective is to get a decedent's body either to the decedent's survivors, DMEC, or to the crematory. Delays are common as the office is expected to pick up bodies at other facilities but has only five employees to do so and the one administrative aide as noted above.

The manager of the morgue reports to LAC+USC's "Support Services Administrator," and also manages the county crematory and the county cemetery.

DHS employs seven persons in the morgue. There are four vacant budgeted positions.

[27] The bodies of indigent individuals who are verified to be veterans are transported to DMEC for pick up by the Veterans' Administration and burial at the National Cemetery in Riverside, California. All persons injured in the commission of a crime in Los Angeles County are treated in secured areas at LAC+USC Medical Center.

2. The County Crematory

The bodies of indigent decedents from the morgue and other facilities around the county are cremated at the Los Angeles County Crematory[28] where only two of five existing high temperature retorts (furnaces) are currently in operation. One of the nonoperational retorts is offline and awaiting repair. Two others have been decertified, last being used in the early 1990s. There is no question that the county-operated retorts have been neglected and have long needed upgrading.

The three to four-hour cremation process starts with the burning of a body in a retort, followed by a two-hour cooling period before the ashes can be removed. Remains are further cooled following their removal from the retort, inspected for metal apparatuses, completely individually processed, carefully placed in a plastic lined box and marked with the appropriate identification tag. Each case, whether the identity of the decedent is known or not, is entered chronologically into a hand-written log book. Remains are then ready to be claimed by survivors of the decedent,[29] or if unclaimed, buried in the county cemetery during the "Funeral for the Unclaimed."[30]

The CGJ was informed that "energy saving" alterations were made in recent years on the existing retorts that reduced the operating temperatures of the furnaces. The result, evidently, is that a single cremation now takes substantially more time, requiring about six hours in the retort rather than four hours. Currently the crematory is able to process only two bodies each day, for a total of ten bodies per week. As it is currently operated by Los Angeles County, the CGJ questions whether its continued operation makes sense.

The DMEC also cremates remains but contracts with private crematories to have an average of more than 600 decedent bodies per year processed at an estimated total cost of $350 per cremation.

DHS employs two staff at the crematory. There are no vacant positions.

3. The County Cemetery

Upon its creation on August 23, 1877, Evergreen Cemetery gave a nine acre plot of land on the eastern side of its sixty-nine acre facility to the City of Los Angeles, to be used as a graveyard for the indigent. The cemetery is noteworthy for never having banned African American burials and includes graves of all manner of early Los Angeles area residents -- Armenian, Chinese, Japanese, Mexican, and early white settlers.

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[28] The CGJ understands that Los Angeles County is the only county in the state to operate its own crematory.

[29] Relatives who claim the boxed ashes at this point are charged $352 for an inpatient death or $466 if the decedent was transported to LAC+USC Medical Center from any other facility.

[30] This funeral occurs every year. Each ceremony lays to rest the unclaimed remains of those who were initially cremated 3 years prior to the current calendar year. Remains can be claimed at any time up to that date.

In 1917, the ownership of the indigent cemetery was passed from the city to the County of Los Angeles. In 1924, lacking space to bury the indigent dead, the county built a crematory at the site and began to cremate the bodies of unclaimed indigents.

The county deeded about 5 acres of land back to Evergreen Cemetery in 1964, but retained the crematory and a smaller section now being used for mass burial of unclaimed indigent remains. About 1,300 unclaimed cremated remains annually are buried in the cemetery.

The cemetery is staffed by the two DHS crematory workers.

IV. METHODS AND PROCEDURES

The CGJ conducted numerous interviews with department heads, senior staff, managers, line staff, budget analysts, long-time and former high-ranking employees of DMEC.

It collected data from medical examiner departments in the larger counties of California and in the ten most populous counties across the country, and also read professional and scholarly papers presenting issues of relevance.

Manuals describing procedures at DMEC were reviewed.

The jury toured the entire headquarters facility on Mission Road in downtown Los Angeles as well as the morgue, located at LAC+USC Medical Center, the crematory, and the county cemetery.

Four jury members attended an autopsy to witness the work of staff firsthand.

V. FINDINGS

1. Of the 60,000 – 80,000 deaths each year in Los Angeles County, DMEC is called to the scene of death in approximately 20,000 – 25,000 cases. The department accepts jurisdiction in about 10,000 of those and actually brings in 8,000 – 9,000 bodies for closer examination.

2. Investigators in DMEC respond to scenes of deaths 24 hours per day, seven days per week.

3. DMEC identified critical staffing needs in the current and each of the past two budget cycles. For example, the Medical Examiner-Coroner, in his first official budget request in January 2014, said his request “reflects a number of high

priority unmet needs, first and foremost, the restoration of unfunded salary savings, without which the department will be unable to hire or sustain critical lab operations." In 2015-2016, the Medical Examiner-Coroner requested 19 additional positions to "address needs in various areas of the lab including toxicology, DNA, research and drug testing, all of which support the ME-C's commitment to best practices and maintenance of . . . accreditations . . . [and] to ensure quality and timeliness of work, and reduce risk for error and increased legal exposure."

4. DMEC needs additional staff across the board: investigators, doctors, laboratory professionals, and direct and indirect support personnel. There is insufficient staffing to cover the workload, much less routine illness or accidents and no staffing cushion to absorb additional workload during catastrophic events and extended leaves of absence.

5. DMEC prioritizes cases in a particular order.
    - First, cases involving infants and young children, because their bodies rapidly decompose.
    - Second, homicides.
    - Third, unidentified individuals.
    - Fourth, all others.

6. The budget reflects investment in DMEC of about $3.55 per resident of the county.

7. DMEC strives to provide quality services to all of its customers, including decedent's families, funeral directors, law enforcement, courts, the District Attorney, the Public Defender, and other justice agencies, foreign consulates, and the news media, in a timely, accurate, efficient, and usable manner.

8. The workload/caseload of DMEC in Los Angeles County compares with that in other very large urban counties, including New York City (all five boroughs) and Cook County (Chicago). Although their service areas are physically smaller and they serve smaller populations, those jurisdictions employ more critical staff per capita than DMEC.

9. The professional field of forensic pathology is quite small and very few medical students pursue residencies, and later careers, in the field.

10. There are numerous job listings for forensic pathologists across the nation that offer starting salaries comparable to those offered in Los Angeles County, but the workload is much less (as is the cost of living).

11. There is a vacancy in the most senior budgeted investigator position, Chief of Coroner's Investigations.

12. There are three vacancies in the most senior positions in the forensic laboratory.

13. Los Angeles County does not engage in recruitment battles for scarce professionals by offering bonuses or other incentives.

14. DMEC will lose its professional accreditation, and expose the County and DMEC to attacks on their credibility in criminal cases, if the workload cannot be handled by staff in a timely manner.

15. Los Angeles County might preserve at least a "provisional" accreditation for DMEC if NAME examiners, expected to inspect DMEC in August 2016, are aware that concrete steps have been taken by Los Angeles County and by DMEC to permanently rectify severe staffing deficiencies.

16. Due to traffic congestion and distance from the medical examiner's facility in downtown Los Angeles, travel times for investigators to the scene of a death can vary widely, but are generally 30 to 90 minutes and sometimes more than three hours. Law enforcement and paramedics must wait for DMEC staff to arrive on scene.

17. Two DMEC investigators are located in the Antelope Valley and work out of a small building (about 4,000 square feet) adjacent to the now closed High Desert Hospital. Bodies are no longer able to be refrigerated prior to transfer to DMEC's Forensic Science Center in downtown Los Angeles because that equipment is not operating. In the rear of the hospital there is an autopsy suite, out of use for at least 10 years.

18. Ambulances are prohibited by law from transporting deceased individuals.

19. In New York City mortuary services, including autopsy facilities, are located in Manhattan, Brooklyn, and Queens. The medical examiner there is in the process of reopening similar facilities in the Bronx and Staten Island.

20. DMEC sends hundreds of bodies per year to private facilities for cremation at a net cost of about $350 per body.

21. The ODA morgue staff is overworked in both transport and administrative positions. There are unfilled, budgeted positions available for additional staff.

22. The Los Angeles County morgue would continue to be located in LAC+USC Medical Center regardless of which department is responsible for its operation.

23. Only two of five existing retorts in the county crematory are operational. One of these lacks a functioning thermostat. DHS workers at the crematory are able to process only two bodies per day.

24. DHS has a policy of contracting with private crematories if the diminished capacity at the county crematory results in a backlog of ten or more bodies.

25. The crematory floor is overdue for replacement.

VI. REQUEST FOR RESPONSE

California Penal Code Sections 933(c) and 933.05 require a written response to all recommendations contained in this report. Such responses shall be made no later than ninety (90) days after the Civil Grand Jury publishes its report (files it with the Clerk of the Court). Responses shall be made in accord with Penal Code Sections 933.05 (a) and (b).

All responses to the recommendations of the 2015-2016 Civil Grand Jury must be submitted on or before July 15, 2016, to:

Presiding Judge
Los Angeles County Superior Court
Clara Shortridge Foltz Criminal Justice Center
210 West Temple Street
Eleventh Floor-Room 11-506
Los Angeles, CA 90012

Responses are required from:

Board of Supervisors: IR2.1, IR2.2(a), IR2.2(b), IR2.2(c), IR2.3(a), IR2.3(b), IR2.3(c), IR2.4, IR2.5, IR2.6, IR2.7(a), IR2.7(b), and IR2.7(c).

Department of Health Services: IR2.6.

Department of the Medical Examiner-Coroner: IR2.1, IR2.2(a), IR2.2(b), IR2.2(c), IR2.3(a), IR2.3(b), IR2.3(c), IR2.4, and IR2.5.

VII. ACRONYMS

BOS	Board of Supervisors
CEO	Chief Executive Officer
CGJ	Civil Grand Jury
DHS	Department of Health Services
DMEC	Department of the Medical Examiner-Coroner
ODA	Office of Decedent Affairs
MOU	Memorandum/Memoranda of Understanding
NAME	National Association of Medical Examiners

VIII. COMMITTEE MEMBERS

Victor Lesley Co-Chair
Molly Milligan Co-Chair
Rene Childress
Judy Goossen Davis
Sandy Orton
Heather Preimesberger
Stephen Press
Arun Sharan
Bob Villacarlos

APPENDIX

California Government Code Sections:

27491. It shall be the duty of the coroner to inquire into and determine the circumstances, manner, and cause of all violent, sudden, or unusual deaths; unattended deaths; deaths where the deceased has not been attended by either a physician or a registered nurse, who is a member of a hospice care interdisciplinary team, as defined by subdivision (g) of Section 1746 of the Health and Safety Code in the 20 days before death; deaths related to or following known or suspected self-induced or criminal abortion; known or suspected homicide, suicide, or accidental poisoning; deaths known or suspected as resulting in whole or in part from or related to accident or injury either old or recent; deaths due to drowning, fire, hanging, gunshot, stabbing, cutting, exposure, starvation, acute alcoholism, drug addiction, strangulation, aspiration, or where the suspected cause of death is sudden infant death syndrome; death in whole or in part occasioned by criminal means; deaths associated with a known or alleged rape or crime against nature; deaths in prison or while under sentence; deaths known or suspected as due to contagious disease and constituting a public hazard; deaths from occupational diseases or occupational hazards; deaths of patients in state mental hospitals serving the mentally disabled and operated by the State Department of State Hospitals; deaths of patients in state hospitals serving the developmentally disabled and operated by the State Department of Developmental Services; deaths under such circumstances as to afford a reasonable ground to suspect that the death was caused by the criminal act of another; and any deaths reported by physicians or other persons having knowledge of death for inquiry by coroner. Inquiry pursuant to this section does not include those investigative functions usually performed by other law enforcement agencies.

(a) In any case in which the coroner conducts an inquiry pursuant to this section, the coroner or a deputy shall personally sign the certificate of death. If the death occurred in a state hospital, the coroner shall forward a copy of his or her report to the state agency responsible for the state hospital.

(b) The coroner shall have discretion to determine the extent of inquiry to be made into any death occurring under natural circumstances and falling within the provisions of this section, and if inquiry determines that the physician of record has sufficient knowledge to reasonably state the cause of a death occurring under natural circumstances, the coroner may authorize that physician to sign the certificate of death.

(c) For the purpose of inquiry, the coroner shall have the right to exhume the body of a deceased person when necessary to discharge the responsibilities set forth in this section.

(d) Any funeral director, physician, or other person who has charge of a deceased person's body, when death occurred as a result of any of the causes or circumstances described in this section, shall immediately notify the coroner. Any person who does not notify the coroner as required by this section is guilty of a misdemeanor.

27491.1. In all cases in which a person has died under circumstances that afford a reasonable ground to suspect that the person's death has been occasioned by the act

of another by criminal means, the coroner, upon determining that those reasonable grounds exist, shall immediately notify the law enforcement agency having jurisdiction over the criminal investigation. Notification shall be made by the most direct communication available. The report shall state the name of the deceased person, if known, the location of the remains, and other information received by the coroner relating to the death, including any medical information of the decedent that is directly related to the death. The report shall not include any information contained in the decedent's medical records regarding any other person unless that information is relevant and directly related to the decedent's death.

27491.2. (a) The coroner or the coroner's appointed deputy, on being informed of a death and finding it to fall into the classification of deaths requiring his or her inquiry, may immediately proceed to where the body lies, examine the body, make identification, make inquiry into the circumstances, manner, and means of death, and, as circumstances warrant, either order its removal for further investigation or disposition or release the body to the next of kin.

(b) For purposes of inquiry, the body of one who is known to be dead from any of the causes or under any of the circumstances described in Section 27491 shall not be disturbed or moved from the position or place of death without permission of the coroner or the coroner's appointed deputy. Any violation of this subdivision is a misdemeanor.

27491.25. The coroner, or the coroner's appointed deputy, on being notified of a death occurring while the deceased was driving or riding in a motor vehicle, or as a result of the deceased being struck by a motor vehicle, shall take blood and urine samples from the body of the deceased before it has been prepared for burial and make appropriate related chemical tests to determine the alcoholic contents, if any, of the body. The coroner may perform other chemical tests including, but not limited to, barbituric acid and amphetamine derivative as deemed appropriate. The detailed medical findings, resulting from those examinations that are conducted, shall either be reduced to writing or permanently preserved on recording discs or other similar recording media and shall include all positive and negative findings pertinent to the presence or absence of any alcoholic or other substance content. This section shall not apply to the testing of deceased persons under the age of 15 years, unless the surrounding circumstances indicate the possibility of alcoholic, barbituric acid, and amphetamine derivative consumption, nor shall it apply when the death has occurred more than 24 hours after the accident.

27491.5. The cause of death appearing on a certificate of death signed by the coroner shall be in conformity with facts ascertained from inquiry, autopsy and other scientific findings. In case of death without medical attendance and without violence, casualty, criminal or undue means, the coroner may, without holding an inquest or autopsy, make the certificate of death from statements of relatives, persons last in attendance, or persons present at the time of death, after due medical consultation and opinion has been given by one qualified and licensed to practice medicine and so recorded in the records of the death, providing such information affords clear grounds to establish the correct medical cause of death within accepted medical practice and within the

requirements for accuracy prescribed by the Division of Vital Statistics of the State Department of Health Services. The coroner shall not finally exclude crime, suicide, or accident as a cause of death because of lack of evidence.

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